

## Appendix E.15 – Climate Change

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# Climate Change Effects Assessment Methodology

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Submitted by:



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# 1. Climate Change Effects Assessment Methodology

## 1.1 INTRODUCTION

Early in the development of the NEC FUTURE program, a strategy was developed to consider greenhouse gas emissions and climate change (*Methodology for Assessing Greenhouse Gas Emissions and Climate Change Effects in the NEC FUTURE Tier 1 EIS*, May 8, 2013). The strategy provided a general approach to addressing these topics based upon recent policy developments for analysis of these topics in the context of NEPA documentation. *In implementing the strategy, two separate impact assessment methodologies have been developed; one to address greenhouse gas emissions and the other to address the effects of climate change. However, within the Tier 1 EIS, a single section on climate change will be presented that includes the findings of both assessments.*

This methodology document focuses specifically *on identifying those elements of rail service and infrastructure associated with each of the Tier 1 EIS Alternatives potentially vulnerable to climate change and its effects, including sea-level rise and storm surge, increased storm frequency and severity, and more frequent and severe extreme heat and cold events.* As stated above, the Tier 1 EIS will also address the related issue of potential effects of the NEC FUTURE program's greenhouse gas (GHG) emissions on climate change; the approach to quantifying and assessing GHG emissions is described in the separate *Air Quality Effects Assessment Methodology*<sup>1</sup>.

This climate change methodology presents the regulatory framework, involved government agencies, expected regulatory and other outcomes of the Tier 1 EIS process, and the relevance to Tier 2, project-level assessments. It also identifies data sources, metrics, and methods to be used to document existing conditions and analyze environmental consequences. New tools or techniques are currently being developed to assist in the identification of and assessment of climate change vulnerabilities, notably those findings or tools developed through the Federal Highway Administration's (FHWA) "Climate Change & Extreme Weather Vulnerability Assessment Framework".<sup>2</sup> As work advances on the NEC FUTURE program, FRA will evaluate opportunities to incorporate these and other findings and tools. Similar updates to relevant topographic or climate data (as shown in Table 5) will be assessed to determine the relevance to the NEC FUTURE analyses. In light of these updates in the approach and data to support climate change assessments, this methodology may be revised as new information is available.

## 1.2 DEFINITIONS

Topic areas covered in this methodology include:

- **Climate Change:** As described by the United States Environmental Protection Agency (EPA), climate change is any significant change in the measures of climate lasting for an extended

<sup>1</sup>NEC Future Tier 1 EIS Air Quality Effects Assessment Methodology,

<sup>2</sup>[https://www.fhwa.dot.gov/environment/climate\\_change/adaptation/publications\\_and\\_tools/vulnerability\\_assessment\\_framework/](https://www.fhwa.dot.gov/environment/climate_change/adaptation/publications_and_tools/vulnerability_assessment_framework/)

period of time. It includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over a period of several decades or longer.<sup>3</sup>

- ▶ **Global Warming:** The EPA describes global warming as the measured increases in average temperatures worldwide in recent decades and the continued increases projected to occur throughout this century.<sup>4</sup> The climate change effects associated with this gradual warming trend include rises in sea levels (due to the melting of glaciers and ice caps, and the thermal expansion of ocean water), projected changes in the location, level and frequency of precipitation and the frequency and/or severity of storm events and changes in temperature ranges (e.g., frequency and intensity of maximum and minimum temperature extremes).
- ▶ **Vulnerability:** For purposes of this Tier 1 EIS, vulnerability is defined as the extent to which elements of existing or proposed rail service and infrastructure would be susceptible to the effects of climate change, such as sea level rise, riverine or coastal flood hazards, or other threats to the transportation network, such as extreme heat and cold effects on tracks.

### 1.3 RELATED RESOURCES

The existing conditions and effects assessments from floodplains evaluated as part of the Tier 1 EIS will contribute to the assessment of the effects of climate change as identified in Table 1. Note that the effects assessments for floodplains will be based on coordination with the Federal Emergency Management Agency (FEMA) and review of readily available information (existing Flood Insurance Rate Maps [FIRM] and Advisory Base Flood Elevations [ABFE]), and documented within the floodplains subsection of the Tier 1 EIS.

**Table 1: Related Resource Inputs to Climate Change**

| Resource                           | Input to Climate Change Assessment                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floodplains                        | <ul style="list-style-type: none"> <li>▪ Effective and Preliminary Flood Insurance Rate Maps and Advisory Base Flood Elevations, where available, that provide a baseline measure of flood risk for use in climate change assessment. The use of FIRM data will be consistent with the floodplain analysis, as documented in a separate methodology, for the Tier 1 EIS. *</li> </ul> |
| Water Resources                    | <ul style="list-style-type: none"> <li>▪ Effects of water resources that overlap with floodplains and thus aggravate flooding conditions/risks</li> </ul>                                                                                                                                                                                                                             |
| Coastal Zones & Saltwater Wetlands | <ul style="list-style-type: none"> <li>▪ Effects of coastal zones &amp; saltwater wetlands that overlap with floodplains and thus aggravate flooding conditions/risks</li> </ul>                                                                                                                                                                                                      |

Source: NEC FUTURE JV TEAM, 2014

\* FIRM and ABFE data will be reviewed case-by-case to obtain the best available data and to maintain overall consistency across the Study Area.

<sup>3</sup> Available from <http://www.epa.gov/climatechange/basics/> (September 2013)

<sup>4</sup> Available from <http://www.epa.gov/climatechange/basics/> (September 2013)

## **1.4 AGENCY AND REGULATORY FRAMEWORK**

Multiple federal agencies are responsible for climate change-related guidance and regulations. The study team will consider the legislation, policies and regulations listed in Table 2 that are consistent with a NEC FUTURE Tier 1 level evaluation of climate change impacts.

TABLE 2: CLIMATE CHANGE GUIDANCE

| Federal Agency                                      | Regulatory Oversight                                                                                                                                                              | Description of Regulation                                                                                                                                                                                                                                                                                                                                                                     | Regulated/ <i>Applicable</i> Resource(s)                                                                                                                              |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| United States Environmental Protection Agency (EPA) | <ul style="list-style-type: none"> <li>§1508.7 of Council on Environmental Quality (CEQ) regulations for implementing National Environmental Policy Act (NEPA)</li> </ul>         | <ul style="list-style-type: none"> <li>Required assessment of “cumulative impacts [that] can result from individually minor but collectively significant actions taking place over a period of time.”</li> <li>The EPA oversees programs to reduce GHGs and regulate air quality standards and goals; they are also actively involved in establishing climate adaptation guidance.</li> </ul> | <ul style="list-style-type: none"> <li>Environmental impacts of federal actions</li> <li>Greenhouse gas (GHG) emissions</li> <li><i>Climate adaptation</i></li> </ul> |
|                                                     | <ul style="list-style-type: none"> <li><i>CEQ, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions.</i> (February 2010)</li> </ul> | <ul style="list-style-type: none"> <li>Recommends the NEPA “rule of reason” when determining how extensively to consider a project’s potential vulnerability to climate change.</li> </ul>                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>GHG emissions</li> </ul>                                                                                                       |
| U.S. Federal Highway Administration (FHWA)          | <ul style="list-style-type: none"> <li><i>Climate Change – Model Language in Transportation Plans</i> (Nov. 2010)</li> </ul>                                                      | <ul style="list-style-type: none"> <li>Procedures and programs for climate change adaptation for transportation infrastructure, including an extensive ongoing pilot program supporting climate change vulnerability assessment programs with state departments of transportation, metropolitan planning organizations, and other agencies.</li> </ul>                                        | <ul style="list-style-type: none"> <li>Vulnerability to climate change</li> </ul>                                                                                     |
| U.S. Department of Transportation (U.S. DOT)        | <ul style="list-style-type: none"> <li><i>Climate Adaptation Plan: Ensuring Transportation Infrastructure and System Resilience</i> (2012)</li> </ul>                             | <ul style="list-style-type: none"> <li>Ongoing and planned actions by U.S. DOT and its modal administrations to identify climate change challenges and the policies and technologies to adapt to them.</li> </ul>                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Vulnerability and adaptation climate change</li> </ul>                                                                         |

Source: NEC FUTURE JV Team, 2014

Additionally, Table 3 includes recent Executive Orders that pertain to climate change and adaptation:

**TABLE 3: EXECUTIVE ORDERS RELATED TO CLIMATE CHANGE AND ADAPTATION**

| Federal Agency        | Regulatory Oversight                                                                                                                                                                                                                                                                                                                            | Description of Regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Regulated Resource                                                                                                                    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| U.S. Executive Office | <ul style="list-style-type: none"> <li>Executive Order 13514, <i>Federal Leadership in Environmental, Energy and Economic Performance</i>. (October 2009)</li> <li>Council on Environmental Quality, <i>Instructions for Implementing Climate Change Adaptation Planning in Accordance with Executive Order 13514</i>. (March 2011).</li> </ul> | <ul style="list-style-type: none"> <li>Establishes an integrated strategy for sustainability, including an interagency climate change adaptation task force</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Climate change adaptation plans</li> <li>Mitigating vulnerability to climate change</li> </ul> |
| U.S. Executive Office | <ul style="list-style-type: none"> <li>Executive Order 13653, <i>Preparing the United States for the Impacts of Climate Change</i> (November 2013)</li> <li><i>The President's Climate Action Plan</i>, Executive Office of the President, June 2013</li> </ul>                                                                                 | <ul style="list-style-type: none"> <li>Seven-point Executive Order focused on making federal activities more efficient and to strengthening consideration of climate change in federal investments, and programs and helping state and local governments prepare for climate change impacts; Includes review of federal funding programs to improve their efficiency in this area, work with the Climate Preparedness and Resilience Task Force, review/improve land and water programs and policies in light of climate change, create and exchange available, usable and timely data, web-based portals, etc.</li> </ul> | <ul style="list-style-type: none"> <li>Vulnerability and adaptation to effects of climate change</li> </ul>                           |

Source: NEC FUTURE JV Team, 2014

The states within the NEC FUTURE Study Area (Study Area) have implemented a wide variety of legislative mandates and regulatory and policy actions to support public and private sector actions to incorporate climate change and adaptation considerations in their policies, programs and investment decisions. Table 4 includes examples of some of the state-level climate change-related regulatory and programmatic actions within the Study Area. An updated list containing further details of the state-level climate change-related actions in each state within the Study Area will be included in the Tier 1 EIS discussion of existing conditions, along with the relevance of these state-level actions to the proposed NEC FUTURE climate change assessments.

**TABLE 4: STATE-LEVEL CLIMATE CHANGE INITIATIVES**

| State        | Regulatory / Programmatic Action                                                                                                                                                                               | Description                                                                                                                                                                                                                                                                 |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delaware     | <ul style="list-style-type: none"> <li>Chesapeake Sea Level Rise and Storm Surge: Public Awareness and Response, Interactive Map of Climate Change in the Chesapeake Bay (2013)</li> </ul>                     | <ul style="list-style-type: none"> <li>An interactive online map of the Chesapeake Bay including the impacts of sea level rise and storm surge predictions as a result of future climate change.</li> </ul>                                                                 |
|              | <ul style="list-style-type: none"> <li>Delaware Department of Natural Resources and Environmental Control, Sea Level Rise Inundation Maps (2013)</li> </ul>                                                    | <ul style="list-style-type: none"> <li>Aid in planning land use planning and controls, emergency management plans, impacts to the economy, future infrastructure plans and planning for coastal community resiliency by determining hazards and vulnerabilities.</li> </ul> |
|              | <ul style="list-style-type: none"> <li>The Delaware Sea Level Rise Advisory Committee, Preparing for Tomorrow's High Tide: Recommendations for Adapting to Sea Level Rise in Delaware (2013)</li> </ul>        | <ul style="list-style-type: none"> <li>Describes Delaware's vulnerability to sea level rise, and provides 55 recommendations for adapting to the effects of sea level rise.</li> </ul>                                                                                      |
|              | <ul style="list-style-type: none"> <li>Wilmington Area Planning Council, <i>Sea-Level Rise, A Transportation Vulnerability Assessment of the Wilmington, Delaware Region</i> (2011)</li> </ul>                 | <ul style="list-style-type: none"> <li>Provides assessment of transportation infrastructure at risk from sea level rise and provides policy recommendations for adaptation planning.</li> </ul>                                                                             |
| Maryland     | <ul style="list-style-type: none"> <li><i>Executive Order 01.01.2012.29: Climate Change and Coast Smart Construction</i> (December 2012)</li> </ul>                                                            | <ul style="list-style-type: none"> <li>Directs that all new and reconstructed state structures, as well as other infrastructure improvements, be planned and constructed to avoid or minimize future flood damage.</li> </ul>                                               |
|              | <ul style="list-style-type: none"> <li><i>2011 Maryland State Hazard Mitigation Plan Update</i> (August 2011)</li> </ul>                                                                                       | <ul style="list-style-type: none"> <li>Prepared by the Maryland Emergency Management Agency, which has incorporated climate change and climate adaptation into the statewide risk assessment and mitigation strategy.</li> </ul>                                            |
|              | <ul style="list-style-type: none"> <li><i>Coastal Shorelines Atlas</i></li> </ul>                                                                                                                              | <ul style="list-style-type: none"> <li>A mapping tool, which allows users to access state coastal hazard data including coastal inundation from storms, areas at risk to sea level rise, and shoreline erosion data.</li> </ul>                                             |
|              | <ul style="list-style-type: none"> <li><i>CoastSmart Communities Program. Inc, including Climate Change and Coast Smart Construction Infrastructure Siting and Design Guidelines</i> (January 2014)</li> </ul> | <ul style="list-style-type: none"> <li>An online resource center for financial and technical assistance to address vulnerability to the impacts of sea level rise and climate change.</li> </ul>                                                                            |
| Pennsylvania | <ul style="list-style-type: none"> <li>Penn State University, <i>Pennsylvania Climate Impact Assessment Report</i> (June 2009)</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>Assesses impacts of global climate change for Pennsylvania, including the economy, wildlife, fisheries recreation, agriculture and tourism.</li> </ul>                                                                               |
|              | <ul style="list-style-type: none"> <li>Department of Environmental Protection, <i>Pennsylvania Climate Adaptation Planning Report: Risks and Practical Recommendations</i> (January 2011)</li> </ul>           | <ul style="list-style-type: none"> <li>Recommendations for climate change adaptation in areas of Infrastructure, Public Health and Safety, Natural Resources, and Tourism and Outdoor Recreation.</li> </ul>                                                                |
| New Jersey   | <ul style="list-style-type: none"> <li>Federal Emergency Management Agency, <i>Advisory Base Flood Elevations Map</i></li> </ul>                                                                               | <ul style="list-style-type: none"> <li>An online mapping tool that shows the ABFEs released by FEMA Region II in 2013 covering areas of New Jersey affected by Hurricane Sandy.</li> </ul>                                                                                  |
|              | <ul style="list-style-type: none"> <li>New Jersey Department of Environmental Protection, <i>Getting to Resilience: A Coastal Community Resilience Evaluation Tool</i></li> </ul>                              | <ul style="list-style-type: none"> <li>A process to help guide the evaluation of local climate change resiliency plans, particularly in coastal areas.</li> </ul>                                                                                                           |

| State | Regulatory / Programmatic Action                                                                                                                                      | Description                                                                                                                                                                                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <ul style="list-style-type: none"> <li>FHWA Climate Change Vulnerability Assessment Pilot Project – North Jersey Transportation Planning Authority (NJTPA)</li> </ul> | <ul style="list-style-type: none"> <li>NJTPA participated in a pilot project to test the FHWA climate change vulnerability assessment model. This conceptual model guided transportation agencies through the process of collecting and integrating climate and asset data in order to identify critical vulnerabilities.</li> </ul> |

**TABLE 4: STATE-LEVEL CLIMATE CHANGE INITIATIVES (CONTINUED)**

| State        | Regulatory / Programmatic Action                                                                                                                                                                                                                                          | Description                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New York     | <ul style="list-style-type: none"> <li>The New York State Emergency Management Office, <i>New York State Coastal Counties Hurricane Storm Surge Zones</i> (September 2005)</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>Shows hurricane storm surge zones based on National Oceanic and Atmospheric Administration (NOAA) sea rise models.</li> </ul>                                                                                                                                                                                                                                 |
|              | <ul style="list-style-type: none"> <li>Federal Emergency Management Agency (FEMA), <i>Advisory Base Flood Elevations Map</i></li> </ul>                                                                                                                                   | <ul style="list-style-type: none"> <li>As noted under New Jersey above, an online mapping tool showing ABFEs released by FEMA Region II in 2013 covering areas of New York affected by Hurricane Sandy.</li> </ul>                                                                                                                                                                                   |
|              | <ul style="list-style-type: none"> <li>New York State Energy Research and Development Authority, <i>Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State</i></li> </ul> | <ul style="list-style-type: none"> <li>Provides information on the state's vulnerability to climate change and on development of adaptation strategies.</li> </ul>                                                                                                                                                                                                                                   |
|              | <ul style="list-style-type: none"> <li>New York City Panel on Climate Change, <i>Climate Risk Information 2013 Observations, Climate Change Projections, and Maps</i> and the 2014 web based update of projections<sup>5</sup></li> </ul>                                 | <ul style="list-style-type: none"> <li>Provides climate projections for NYC.</li> </ul>                                                                                                                                                                                                                                                                                                              |
| Connecticut  | <ul style="list-style-type: none"> <li>Connecticut Department of Energy and Environmental Protection (DEEP), Coastal Hazards Mapping Tool, including Sea Level Rise Visualization Data</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Depicts estimates of inundation due to sea level rise across all Connecticut towns with direct frontage on Long Island Sound (and Fisher's Island Sound), for use by coastal communities to test inundation scenarios and ways to prepare for them.</li> </ul>                                                                                                |
|              | <ul style="list-style-type: none"> <li>CT DEEP, <i>Facing Our Future</i> fact sheet series</li> </ul>                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Details current observations and provides high-level recommendations for alternative adaptation approaches at the local and regional level. Areas addressed include adaptation related to biodiversity and habitat, fisheries, forestry, infrastructure, natural coastal shoreline environment, outdoor recreation, water resources, and wildlife.</li> </ul> |
| Rhode Island | <ul style="list-style-type: none"> <li>Rhode Island Climate Risk Reduction Act of 2010</li> </ul>                                                                                                                                                                         | <ul style="list-style-type: none"> <li>Requires comprehensive community plans to include adaptation provisions for sea level rise and climate change, as well as the creation of a Rhode Island Climate Change Commission.</li> </ul>                                                                                                                                                                |

<sup>5</sup> <http://www.nyc.gov/html/sirr/html/about/future.shtml>

| State         | Regulatory / Programmatic Action                                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | <ul style="list-style-type: none"> <li>RI Sea Grant, Sea Level Rise in Rhode Island: Trends and Impacts (January 2013)</li> </ul> | <ul style="list-style-type: none"> <li>Provides an overview of the current science from peer-reviewed information as well as impacts and actions compiled by the University of Rhode Island Climate Change Collaborative, scientists, and managers in Rhode Island, and RI Sea Grant, Sea Level Rise Mapping &amp; Data Tools, a statewide digital elevation and bathymetry data tool, Sea Level Affecting Marshes Model, and other sea level rise resources.</li> </ul> |
| Massachusetts | <ul style="list-style-type: none"> <li>Massachusetts General Law Part I, Title III, Chapter 30, Section 61</li> </ul>             | <ul style="list-style-type: none"> <li>Requires respective agencies, departments, boards, commissions, and authorities to consider reasonably foreseeable climate change impacts, including predicted sea level rise, when considering and issuing permits, licenses, and other administrative approvals and decisions.</li> </ul>                                                                                                                                       |
|               | <ul style="list-style-type: none"> <li>Massachusetts Regulation 310 CMR 9.37(2)(b)(2)</li> </ul>                                  | <ul style="list-style-type: none"> <li>Requires new buildings designs intended for human occupancy within a flood zone to incorporate projected sea-level rise during the buildings' design life consistent with projected sea-level rise. Such projections must be based on historical rates of sea level increase in New England coastal areas.</li> </ul>                                                                                                             |

Source: NEC FUTURE JV Team, 2014

### 1.4.1 Regulatory Compliance

The FRA will not request any formal agency approvals for the Tier 1 EIS; however, the FRA will engage in dialogue with the EPA on methodologies, assumptions, and findings of the Tier 1 EIS analysis of climate change. The Tier 1 EIS will describe the requirements for subsequent Tier 2 evaluations, including compliance with federal and state regulations. During the Tier 1 EIS, the FRA will identify potential opportunities to streamline subsequent Tier 2 environmental reviews (see Section 1.7). Coordination with the EPA will be consistent with the NEC FUTURE Agency Coordination Plan and support the Statement of Principles (SOP) established between the FRA and federal regulatory agencies as part of the Council on Environmental Quality (CEQ) Pilot program.

## 1.5 METHODOLOGY TO ASSESS EFFECTS

This effects assessment methodology identifies the following:

- ▶ The approach and assumptions to be used in the Tier 1 EIS for describing existing and projected future conditions of specific climate hazards most likely to impact transportation infrastructure and services (e.g. sea level rise, increased storm intensity and storm-related flooding, and *maximum and minimum temperature extremes*<sup>6</sup>).
- ▶ The consequences of those potential effects of projected climate change on the Tier 1 EIS Alternatives.

<sup>6</sup> [http://www.fta.dot.gov/documents/FTA\\_0001 - Flooded Bus Barns and Buckled Rails.pdf](http://www.fta.dot.gov/documents/FTA_0001_-_Flooded_Bus_Barns_and_Buckled_Rails.pdf) and Transportation Research Board (2008) Special Report 290 Potential Impacts of Climate Change on U.S. Transportation

The methodology identifies data sources, defines the Affected Environment and Context Area considered for climate change, and the approach for evaluating the effects of climate change on service and infrastructure associated with the Tier 1 EIS Alternatives. Effects associated with climate change include exposure of infrastructure to extreme weather events potentially resulting in more significant flooding in areas already prone to flooding and / or extreme heat or cold events that result in problems with train equipment and infrastructure (e.g., warped rail tracks, cracks in tracks, heat kinks)<sup>7</sup>. Effects of such events on transportation facilities and operations result in extensive indirect costs of delays, detours, trip cancellation and disruption of business activity which can be significant.<sup>8</sup>

### 1.5.1 Existing Conditions

The data sources listed in Table 5 will be used to establish the baseline conditions along the NEC, where infrastructure and services are currently most vulnerable to the impacts of climate change (e.g., sea level rise, increased storm intensity and flooding, and heat events). Actions being taken by states or railroads within the Study Area to address climate change will also be considered and documented to further establish the baseline conditions and to be used as inputs to the climate change effects assessment.

**Table 5: Data Sources for the Evaluation of Climate Change Impacts**

| Resource:         | Data Source                                                                                                                                                                                                                                                                                                                                                                                               | Data Application/Input to Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topographic data  | <ul style="list-style-type: none"> <li>U.S. Geological Survey (USGS), National Geospatial Program (NGP) 5' contour topographic map data, available from the U.S. Department of the Interior.*</li> <li>NOAA Coastal Services Center topographic database developed in 2013 for recent sea level rise work for the Northeast coast.</li> </ul>                                                             | <ul style="list-style-type: none"> <li>Topographic data sets will be used to understand the potential range ts of flood inundation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Existing Flooding | <ul style="list-style-type: none"> <li>Digital Flood Insurance Rate Maps (FIRM), and Preliminary FIRMs</li> <li>Flood Insurance Studies (FIS)</li> <li>Advisory Base Flood Elevation (ABFE) maps</li> <li>Preliminary Work Maps</li> <li>Preliminary FIRMs</li> </ul> <p>Data available from and updated by U.S. Department of Homeland Security, Federal Emergency Management Administration (FEMA).</p> | <ul style="list-style-type: none"> <li>GIS-based maps used to establish a baseline for assessments of potential increases in flooding due to climate change. FEMA map projects consider both existing riverine and coastal flooding. The use of FEMA maps will be consistent with the use established in the floodplain section of the Tier 1 EIS.</li> <li>This data informs the analysis by providing information regarding current flooding conditions and areas of vulnerability along the existing NEC as well as the representative routes of the proposed Tier 1 EIS Alternatives.</li> </ul> |

<sup>7</sup> [http://www.fta.dot.gov/documents/FTA\\_0001\\_-\\_Flooded\\_Bus\\_Barns\\_and\\_Buckled\\_Rails.pdf](http://www.fta.dot.gov/documents/FTA_0001_-_Flooded_Bus_Barns_and_Buckled_Rails.pdf)

<sup>8</sup> For the discussion of the direct vs. indirect effects of climate change, see [http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap8\\_FGDall.pdf](http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap8_FGDall.pdf)

| Resource:                                             | Data Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Data Application/Input to Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Existing Extreme Heat Events                          | <ul style="list-style-type: none"> <li>NOAA, National Climatic Data Center, Global Historical Climatology Network-Daily data set.</li> <li>Information from Amtrak and other NEC Study Area rail operators regarding extreme heat events and ways of responding to those events.</li> </ul>                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Provide a consistent historical and current (baseline) data set regarding the frequency and duration of extreme heat events within the Study Area.</li> <li>Use the railroads' understanding of the present frequency and severity of such events to better define how to use the NOAA data going forward as a measure of potential future heat-related, as well as obtain data on the impacts on railroad operations and their capital and operating costs.</li> </ul>                              |
| Sea Level Rise Projections                            | <ul style="list-style-type: none"> <li>IPCC 2013 Climate Change 2013: The Physical Science Basis, Fifth Assessment Report.</li> <li>Relevant regional and state-level sea level rise projections from sources noted in Table 4.</li> </ul>                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Select consistent sea level rise scenarios appropriate for the northeast for near-term (e.g., 2050) and long-term (e.g., 2100) planning horizons to be used in the NEC FUTURE analysis.</li> </ul>                                                                                                                                                                                                                                                                                                   |
| Sea Level Rise Inundation Maps                        | <ul style="list-style-type: none"> <li>NOAA Coastal Services Center Sea Level Rise and Coastal Flooding Impacts Viewer/Data Sets.</li> <li>Inundation maps (available in 1-foot increments from 1 foot to 6 feet).</li> </ul> <p>Data available from NOAA for the entire Study Area.</p>                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Data used to identify coastal areas that would be flooded under various levels of sea rise to be established in consultation with NOAA.</li> <li>Data will support developing near-term and long-term scenarios for sea level rise and storm surge inundation.</li> <li>This data will be used to further identify areas of vulnerability.</li> </ul>                                                                                                                                                |
| Future Extreme Events (Precipitation and Heat Events) | <ul style="list-style-type: none"> <li>IPCC 2013 Climate Change 2013: The Physical Science Basis, Fifth Assessment Report.</li> <li>Coupled Model Intercomparison Project IPCC Fifth Assessment Report (CMIP5) data.</li> <li>Relevant regional and state-level temperature projections from sources noted in Table 4.</li> <li>FIMA and FEMA 2013 study: The Impact of Climate Change and Population Growth on the National Flood Insurance Program through 2100.</li> </ul> | <ul style="list-style-type: none"> <li>Available CMIP5 data and downscaled data will be reviewed to develop reasonable projections for increased precipitation and temperatures with respect to future frequency and duration of extreme events.</li> <li>CMIP5 processing tools, such as the FHWA USDOT CMIP5 Tool will be leveraged and expanded upon to achieve full coverage of the study area.</li> <li>Projected changes in Flood Hazard Areas</li> <li>This data will be used to further identify areas of vulnerability.</li> </ul> |

| Resource:             | Data Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Data Application/Input to Analysis                                                                                                                                                                                                                                                                                            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adaptation Strategies | <ul style="list-style-type: none"> <li>U.S. Army Corps of Engineers (USACE), <i>Climate Change Adaptation Plan and Report</i> (September 2011)</li> <li>U.S. DOT, <i>US DOT Policy Statement On Climate Change Adaptation</i> (June 2011)</li> <li>U.S. DOT, <i>Climate Adaptation, Ensuring Transportation Infrastructure and System Resilience</i> (2012)</li> <li>U.S. DOT, FHWA, <a href="#">FHWA Climate Change &amp; Extreme Weather Vulnerability Assessment Framework</a> (December, 2012).</li> <li>Relevant regional and state-level adaptation plans and strategies noted in Table 4</li> </ul> | <ul style="list-style-type: none"> <li>Reviewed to support developing structural and other measures to improve the resilience of rail infrastructure potentially impacted by climate change.</li> <li>Data used to develop potential adaptation strategies for proposed infrastructure associated with NEC FUTURE.</li> </ul> |

Source: NEC FUTURE JV Team, 2014

\* Although Lidar-based topographic data is available for some states or jurisdictions within the Study Area, it is not available corridor-wide. Therefore, development of full Lidar-based topographic database was not recommended. However, NOAA sea level rise database (see Table 5) includes the best available topographic data for the Study Area and will be used in the proposed climate change effects assessment.

The Tier 1 EIS will document existing and future conditions in order to characterize the potential climate change impacts for an established Affected Environment and Context Area.

- ▶ For the assessment of flood hazards, the Affected Environment is a 2,000-foot swath<sup>9</sup> centered on the Representative Route<sup>10</sup> for each of the Tier 1 EIS Alternatives. This 2,000-foot swath is consistent with the Affected Environment defined for Floodplains and is sufficiently wide to:
  - Encompass and account for the improvements associated with a Representative Route including infrastructure improvements (such as embankments, aerial structures, track improvements), ancillary facilities (such as stations, yards and parking structures), or service changes.
  - Account for contiguous flood risk conditions that may extend beyond the Representative Route.
- ▶ For existing flood hazards, acres of 100-year floodplains will be estimated within each state. The total area of the Affected Environment located within these floodplains will be presented in tables and these areas of susceptibility will also be mapped using GIS.
- ▶ For purposes of flood hazard analysis, 5-foot contours (based on topographic databases from NOAA and USGS) will be used in the Tier 1 EIS for the Affected Environment. While finer-scale

<sup>9</sup> This 2,000-foot swath is subject to revision based on consultation with resource agencies

<sup>10</sup> Representative Route refers to a proposed route or potential alignment for a Tier 1 EIS Alternative. The Representative Route includes the physical footprint of the improvements associated with the Tier 1 EIS Alternatives. The horizontal and vertical dimensions of the footprint of the Representative Route are based on prototypical cross-sections for these improvements. The Representative Route is used as a proxy for estimating the potential effects of a route whose location could shift during subsequent project-level reviews.

data are available for some portions of the Study Area, only the NOAA and USGS databases provide consistent data for the entire Study Area.

- ▶ For the assessment of extreme heat and cold events, the Affected Environment includes the entire Study Area with a focus on the various existing rail lines, which will be characterized utilizing available CMIP5 data and downscaled datasets, as identified in Table 5.

The Context Area is 5 miles wide, centered on the Representative Route for each Tier 1 EIS Alternative. Within the Context Area, (1) existing 100-year floodplains will be mapped, and (2) general characteristics of, and relative size and location of the 100-year floodplain zones will be presented in order to qualitatively characterize areas of current flood risk should the Representative Route shift. This information will be used to supplement the quantitative assessment of effects within the Affected Environment. The assessment of extreme heat and cold events will be conducted at the state level throughout the Study Area, with no separate localized analysis conducted for the Context Area.

### 1.5.2 Environmental Consequences

Environmental consequences will be evaluated by comparing the existing (baseline) conditions relative to the primary climate change hazards (e.g., sea level rise, increased storm intensity and flooding, and extreme heat and cold events) for projected future conditions to identify areas of vulnerability to climate change (such as projected/future floodplain boundaries). Within the NEC FUTURE Tier 1 EIS, a planning horizon year of 2040 is generally used for alternatives planning and impact assessments. However, climate change studies typically consider longer-term planning horizons (for NEC FUTURE, horizon years such as 2075–2100), because the impacts of climate change are slower to manifest and are expected to worsen over time; sea level rise and related assessments are often done for multiple scenarios that present multiple scales of vulnerability. Thus long-term consideration of climate change impacts is particularly appropriate for the types of large-scale, long-term infrastructure investments being considered under the NEC FUTURE program. Therefore, the FRA will consider two future scenarios in assessing climate change effects:

- ▶ **Near-term (mid-century) scenario:** This scenario is not tied to a specific analysis year, but will be equivalent to an approximately 30–50 year horizon scenario (approximately 2040–2060). This approach allows one projection to be selected, and the uncertainty of that projection occurring is placed in the context of time. This approach is more useful for adaptation planning than fixing the year (e.g., 2050), and selecting a range of projections that could occur at that time (e.g., high-end and low-end projections). For example, a 1-foot (12-inch) rise in static sea levels could occur in the 2040 to 2060 timeframe. Similarly, moderate projections related to storm and temperature frequency/severity will be selected based on a review of the available CMIP5 data.
- ▶ **Long-term (end-of-century) scenario:** This scenario will account for longer-term impacts that are projected to occur near the end of the century (e.g., 2075–2100+), equivalent to an approximately 60–80 year horizon scenario. For example, a 6-foot (72-inch) rise in static sea levels could occur in this timeframe. Similarly, more extreme storm and temperature projections will also be considered.

The two-scenario approach will be used to analyze different levels of climate change-related effects (e.g., a sea level rise of 12 inches versus 72 inches) that encompass the range of projections and forecast timeframes used by researchers and regulatory agencies in the northeast. The approximate range of years considered within each scenario will be noted and appropriately vetted with relevant agencies as the uncertainties associated with climate change projections increase with time. Evaluating two scenarios covering two future planning horizons will allow for greater flexibility when considering potential adaptation strategies. More detail on the selection of the sea level rise scenarios is included in the Appendix.

The FRA will not consider the joint probability of extreme weather events and their combined effects (e.g., a 100-year coastal storm surge event occurring simultaneously with a 100-year rainfall event, with a frequency much greater than every 100 years). Such studies are beyond the level of detail warranted for a Tier 1 EIS given the limited level of design. The Tier 1 EIS text will indicate why such low-probability conditions were not analyzed while recommending that such detailed analysis be considered where necessary at the Tier 2 level.

There is greater certainty associated with the near-term (mid-century) scenarios. Therefore, future Tier 2 project reviews could consider the mid-century climate change impacts as part of their detailed design considerations for implementation. The climate change impacts associated with the end-of-century scenario could be considered for future adaptation measures, rather than for immediate implementation, and the adaptation measure could be brought online when a particular climate stressor threshold or trigger is reached.

Together, this two-scenario approach provides a moderate-to-high level estimate of the likely increase in climate change related impacts on the NEC, and the extent to which the Tier 1 EIS alternatives are resilient to those impacts. For each Representative Route, *resiliency may be defined as* the acreage vulnerable to flood risks and the percentage of each route's total acreage subject to flood risks under each scenario and within each state will be calculated and presented in tabular and map formats.

The following steps will be undertaken to evaluate the environmental consequences of climate change within the Affected Environment for Flood Hazard and Extreme Heat and Cold events.

### Climate Change-Related Flood Hazard Impact Assessment

As sea levels rise, the number of areas inundated daily at high tide would increase, and infrastructure improvements within those areas could be subject to increased degradation, erosion, and wear and tear. Evaluating inundation associated with future sea level rise alone (without consideration of storm surge) considers areas that will be subjected to future *permanent* inundation, i.e., areas that are not exposed to regular tidal inundation under existing conditions, but will be subject to regular tidal inundation in the future. Storm surge presents a significant, although *periodic*, flood hazard. Infrastructure improvements that are subjected to periodic inundation by storm surge events could be subject to severe damage—particularly if their original design considerations did not account for potential future inundation. Both the mid-century and end-of-century sea level rise scenarios will be evaluated alone and in combination with 100-year storm conditions (the standard FEMA flood risk metric) so that permanent and period inundation can be evaluated along the NEC Representative Routes and within the Context Area.

The future condition inundation maps for extreme storm conditions will account for changes in precipitation, sea level rise, and potential changes in coastal storm intensity and storm surge conditions. The CMIP5 global climate model data, and available downscaled model data, will be used to estimate climate change–related changes in severe storm-related precipitation, and the extent to which these changes would increase rainfall-runoff driven riverine flooding.

NOAA recently developed an approach, in partnership with FEMA, USACE, the United States Global Change Research Program (USGCRP), and the Council on Environmental Quality (CEQ) to develop a set of map services and related tools to help communities, residents, and other stakeholders consider risks from future sea level rise in planning for reconstruction following Hurricane Sandy.<sup>11</sup> Similar to this approach, the Tier 1 climate change assessment will evaluate the future conditions of coastal and inland waterways due to changes in sea level and storm frequency and severity projected to result from climate change using the following steps:

1. Overlay and analyze flood hazard areas using GIS to map the latest available FEMA effective or preliminary FIRMs and/or ABFEs identified in Table 1.
2. Establish the existing flood vulnerability baseline for the Tier 1 EIS Alternatives by calculating the acreage and percentage of each Representative Route that falls within flood hazard areas. Areas within the adjacent Affected Environment where the Representative Route would be close to flood hazard areas would be qualitatively discussed, with references to maps that show this visually.
3. Estimate future flood risk conditions by adding the changes in sea level rise and storm-related conditions under mid-century (near-term) and end-of-century (long-term) scenarios developed in consultation with stakeholders<sup>12</sup> to the FEMA flood insurance rate map baseline.
4. Using the two-scenario approach, identify future effects of climate change on flood vulnerability as follows:
  - a. Sea Level Rise Flooding: Overlay and analyze NOAA-based inundation maps (for sea level rise inundation only, not coupled with a storm event) identified in Table 5 to establish the change in the number of acres within the Representative Route that would be newly within inundation zone under the future sea level scenarios.
  - b. Coastal Storm Surge Flooding: Add sea level rise to the FEMA effective or preliminary FIRMs and/or ABFEs identified in Table 1. Overlay and analyze the inundation maps (sea level rise coupled with 100-year storm surge) to establish the change in the number of acres within the Representative Route within flood hazard zones relative to FEMA FIRM baseline conditions.
  - c. Riverine Flooding: Use the findings of the FIMA/FEMA 2013 report *The Impact Climate Change and Population Growth on the National Flood Insurance Program through 2100* and CMIP5 downscaled model results of projected increases in storm severity and frequency under mid-century and end-of-century scenarios to estimate the change in the number of

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<sup>11</sup> See <http://www.geoplatform.noaa.gov/home/item.html?id=3097fc32e98f490cbacc5405751938e9>

<sup>12</sup> AMTRAK, Delaware DoE, EPA, FHWA, FRA, NOAA and U.S. DoT Volpe

acres of the Affected Environment within flood hazard zones relative to FEMA FIRM baseline conditions.

5. Based on the results of Step 4, evaluate the sensitivity of infrastructure or service characteristics of each Tier 1 EIS Alternative to future inundation and other climate change effects.
6. Define the nature and extent of such impacts, based on the severity of flooding and the sensitivity of certain infrastructure elements to such events. Describe the potential vulnerability of portions of the Representative Routes to either infrastructure or operations (e.g., tunnel segments, major interlocking, etc.).
7. Identify a range of adaptation strategies that could be used to mitigate the climate change effects.

### **Climate Change-Related Extreme Heat *and Cold Events***

While impacts associated with increased flood hazards have dominated climate change assessments, the potential for other climate change-related impacts will be assessed for the Study Area. These impacts include increased potential for heat-related damage to rail infrastructure (such as warped rails or “sun kinks” due to higher temperatures and heat event frequencies) and the effects of extreme cold.

#### Extreme Heat Events

The following steps will be taken to assess the potential effects of extreme heat:

1. Use the NOAA GHCN-D dataset identified in Table 5 to establish an existing baseline for the severity and frequency of heat events within the Study Area.
2. Work with Amtrak and other railroad operators in the corridor to assess their experience with the type and frequency of such heat event impacts under current conditions and the actions taken to adapt to such events (e.g., reduced peak speeds, reduced service) or increase their network’s resiliency through changes in infrastructure, equipment, etc.
3. Use CMIP5 and available downscaled model data to identify potential worsening of frequency and severity of extreme heat events on a state-by-state basis for the Study Area. These projections would be made for both the mid-century and end-of-century scenarios. These projected changes would be reviewed with NOAA and other involved agencies.
4. Estimate the likely change in extreme heat-related impacts on railroad operations in the Study Area under each of these two climate change scenarios.
5. Identify a range of adaptation strategies that could be used to mitigate the climate change effects.

#### Extreme Cold Events

*In North America, climate change is projected to result in increases in hot days and extended warm spells (i.e. heat waves), reductions in cold days, cold nights and frosts, and more rapid increases in*

minimum temperature extremes than maximum temperature extremes (IPCC, 2013). However, the frequency and duration of extreme cold events in the Northern U.S. may be affected by potential increases in 'blocking' events, described by the National Climate Assessment as a large scale weather pattern with little or no movement (NCA, 2014, p43). The NCA acknowledges that there is further research required as conclusions about trends in 'blocking' are currently dependent on the method of analysis. Due to the uncertainty of the climate change related influence on this hazard, a qualitative assessment of the potential effects of extreme cold events (including effects of snow and ice) will be undertaken.

### 1.5.3 Mitigation Strategies

A menu of potential programmatic adaptation strategies and mitigation measures will be developed for further consideration in Tier 2. Examples of programmatic adaptation strategies and mitigation measures for climate change could include the following:

- ▶ Policy recommendations (e.g., climate change adaptation or vulnerability as a factor in prioritizing and/or selecting Tier 2 projects),
- ▶ Physical modifications (e.g., raising tracks or adding other structures),
- ▶ Design strategies that allow for temporary inundation while avoiding infrastructure damage leading to long service disruption, or
- ▶ Design modifications that reduce vulnerability without major route relocation or flood protection structures (e.g., constructing on viaduct over flood-prone areas).

Examples of relevant climate change-related actions at the state level within the Study Area will also be included (see Section 1.6).

## 1.6 TIER 1 EIS OUTCOMES

This Tier 1 EIS climate change assessment will:

- ▶ Provide a comprehensive assessment of the Tier 1 EIS Alternatives' vulnerability to flooding and other effects associated with climate change under near-term/moderate and long-term/severe scenarios.
- ▶ Identify those segments or aspects of service of the Tier 1 EIS Alternatives that are most vulnerable to these future climate change impacts based on the types of infrastructure and operations associated with each alternative.
- ▶ Provide, at a programmatic level, the types of measures that could be taken to adapt the Tier 1 EIS Alternatives to these projected climate change effects, and present these findings in the context of present climate change and adaptation activities by states and rail operator along the corridor.

- ▶ Provide information regarding state-level climate change-related actions in each state within the Study Area as part of the Tier 1 EIS discussion of existing conditions, along with the relevance of these state-level actions to the proposed NEC FUTURE climate change assessments and programmatic adaptation measures.

## 1.7 APPLICABILITY TO TIER 2 ASSESSMENTS

The Tier 1 analysis will identify aspects of the Tier 1 EIS Alternatives that are most at risk for future near- and longer-term climate change impacts. In future Tier 2 environmental compliance efforts, additional analyses, potentially including a comprehensive climate change vulnerability and risk assessment, will focus on these vulnerable areas to inform the detailed designs of routes in areas identified as vulnerable. Future Tier 2 efforts should also consider updates related to the best available scientific information regarding climate change impacts, including improved global climate models, updated projections, and more advanced modeling methods or tools that may become available.

Additionally, the FRA will identify ways in which agency coordination, during the Tier 1 process could create efficiencies and help streamline subsequent Tier 2 reviews and approvals.



# Appendix

## Climate Change Assessment Sea Level Rise Scenario Recommendations

October 3, 2014  
Version 2.1

Submitted by:



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## 1. Introduction

This document supports the Climate Change Effects Assessment Methodology that has been developed for the NEC Future Tier 1 EIS. The objective of the climate change effects assessment is to identify those elements of the rail infrastructure within the Tier 1 EIS Alternatives that are most vulnerable to climate change and related factors including flooding related to sea level rise and coastal storm surge. In line with the expectations of a Tier 1 Assessment, and the scale of the study area, this assessment seeks to apply a defensible approach using readily available, existing data. This brief document provides the NEC FUTURE team's recommendation for the appropriate sea level rise scenario(s) to use for the analysis that will be included as part of NEC Future Tier 1 EIS.

## 2. Summary of the Science

Global sea level has risen approximately 7 inches between 1901 and 2010<sup>13</sup>. However, future sea level rise projections should not be based simply on linear extrapolation of historical sea level rise records. For estimates beyond one or two decades, linear extrapolation of sea level rise based on historical observations is considered inadequate and would likely underestimate the actual sea level rise because of expected nonlinear increases in global temperature and the unpredictability of complex natural system (e.g., how temperature increases will affect ocean warming and ice sheet loss).

There is a large body of research available related to sea level rise, and the processes that contribute to rising sea levels. The Intergovernmental Panel on Climate Change (IPCC, 2013) Fifth Assessment Report (AR5) presents that latest research on sea level rise and reports that global sea level rise rates on the order of 11 to 39 inches are projected by the year 2100, with 11 inches associated with the best-case greenhouse gas concentration scenario (Representative Concentration Pathway (RCP) 2.6)<sup>14</sup> and 39 inches associated with the worst-case greenhouse gas concentration scenario (RCP8.5) (Table 1 and Figure 1). However, it should be noted that these IPCC AR5 global sea level rise estimates do not include contributions from processes that are considered highly uncertain, such as arctic ice sheet melting, and these contributions can result in sea level rise estimates that are much higher. The National Climate Assessment (NCA, 2014) accounts for some of this uncertainty and suggests that 48 inches of sea level rise is plausible by the year 2100, and further states that sea level rise could be as much as 79 inches by the end of the century. The

<sup>13</sup> IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

<sup>14</sup> Representative Concentration Pathway (RCPs) are the future greenhouse gas emissions scenarios used by the IPCC for the AR5. The scenarios (RCPs) are identified by their approximate total radiative forcing in year 2100 relative to 1750. For example "...2.6 W m<sup>-2</sup> for RCP2.6, 4.5 W m<sup>-2</sup> for RCP4.5, 6.0 W m<sup>-2</sup> for RCP6.0, and 8.5 W m<sup>-2</sup> for RCP8.5" (IPCC, 2013, p29). Four RCPs have been developed including "...one mitigation scenario leading to a very low forcing level (RCP2.6), two stabilization scenarios (RCP4.5 and RCP6), and one scenario with very high greenhouse gas emissions (RCP8.5)." (IPCC, 2013 p29).

projections referred to in NCA 2014, are based on the 2012 NOAA Technical Memo titled *Global Sea Level Rise Scenarios for the United States National Climate Assessment* (NOAA, December 6, 2012). Relative sea level rise along most of the coastal Northeast is expected to exceed the global average rise due to local land subsidence, with the possibility of even greater regional sea level rise if the Gulf Stream weakens as some models suggest (NCA, 2014). Recognizing this, regional sea level rise projections have been developed for states and cities including New York City (refer to Table 2 for an example).

**TABLE 1: GLOBAL SEA LEVEL RISE BY THE YEAR 2100 AS PROJECTED BY THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE**

| Scenario     | Near-term<br>(mid-century) | Long-term<br>(end-of-century)                                   | Near-term<br>(mid-century) | Long-term<br>(end-of-century)                                   |
|--------------|----------------------------|-----------------------------------------------------------------|----------------------------|-----------------------------------------------------------------|
|              | Mean                       | Likely Range<br>(5 <sup>th</sup> – 95 <sup>th</sup> percentile) | Mean                       | Likely Range<br>(5 <sup>th</sup> – 95 <sup>th</sup> percentile) |
| RCP2.6 (in.) | 9.4                        | 6.7-12.6                                                        | 17.3                       | 11.0-24.0                                                       |
| RCP4.5 (in.) | 10.2                       | 7.5-13.0                                                        | 20.9                       | 14.2-28.0                                                       |
| RCP6.0 (in.) | 9.8                        | 7.1-12.6                                                        | 21.7                       | 15.0-28.7                                                       |
| RCP8.5 (in.) | 11.8                       | 8.7-15.0                                                        | 29.1                       | 20.5-38.6                                                       |

Source: IPCC, 2013. Values are relative to the mean over 1986-2005. Near-term relates to the IPCC timeframe of 2046-2065. Long-term relates to the IPCC timeframe of 2081-2100.

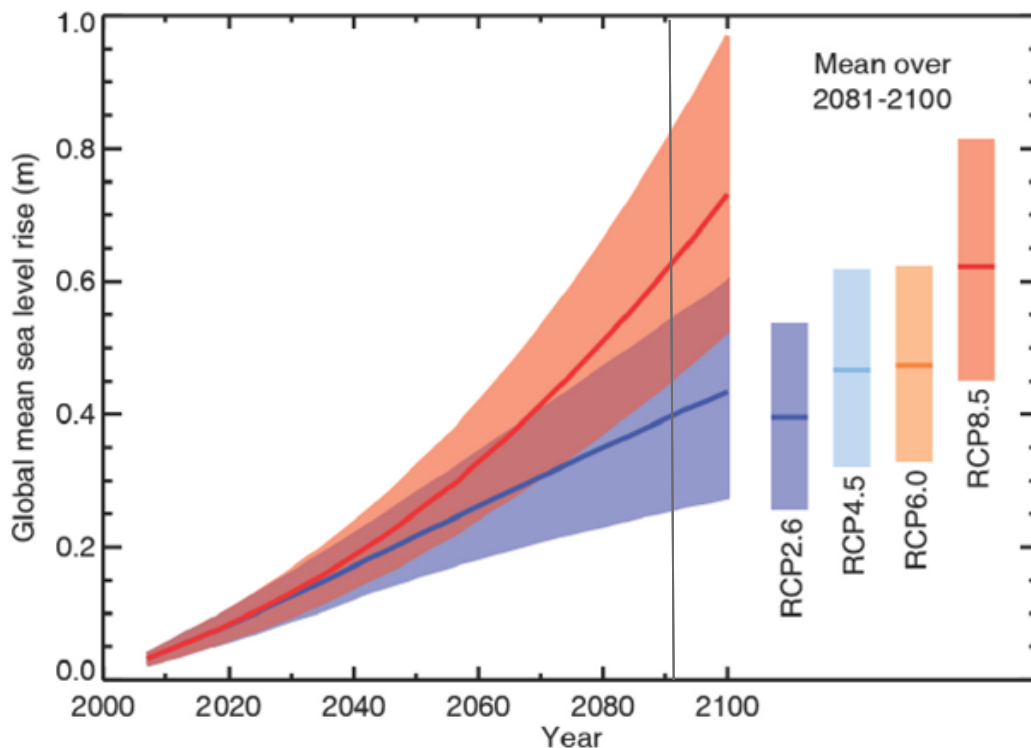
**TABLE 2: REGIONAL SEA LEVEL RISE PROJECTIONS FOR NEW YORK CITY**

| Sea Level Rise      | Near-term<br>(mid-century)                                       |                                           | Long-term<br>(end-of-century)                                    |                                           |
|---------------------|------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------|-------------------------------------------|
|                     | Middle Range<br>(25 <sup>th</sup> – 75 <sup>th</sup> percentile) | High End<br>(90 <sup>th</sup> percentile) | Middle Range<br>(25 <sup>th</sup> – 75 <sup>th</sup> percentile) | High End<br>(90 <sup>th</sup> percentile) |
| New York City (in.) | +11 to 21                                                        | +30                                       | +22 to 50                                                        | +75                                       |

Source: NYC 2014 Climate Projections: <http://www.nyc.gov/html/sirr/html/about/future.shtml>

Baseline period for sea level rise projections is 2000-2004. Near-term relates to the 2050s and the Long-term relates to 2100.

**Figure 1: Projected Rise in Global Sea Level until the Year 2100 for Each Representative Concentration Pathway (RCP) Greenhouse Gas Concentration Scenario**



Source: IPCC, 2013.

### 3. Proposed Sea Level Rise Scenarios

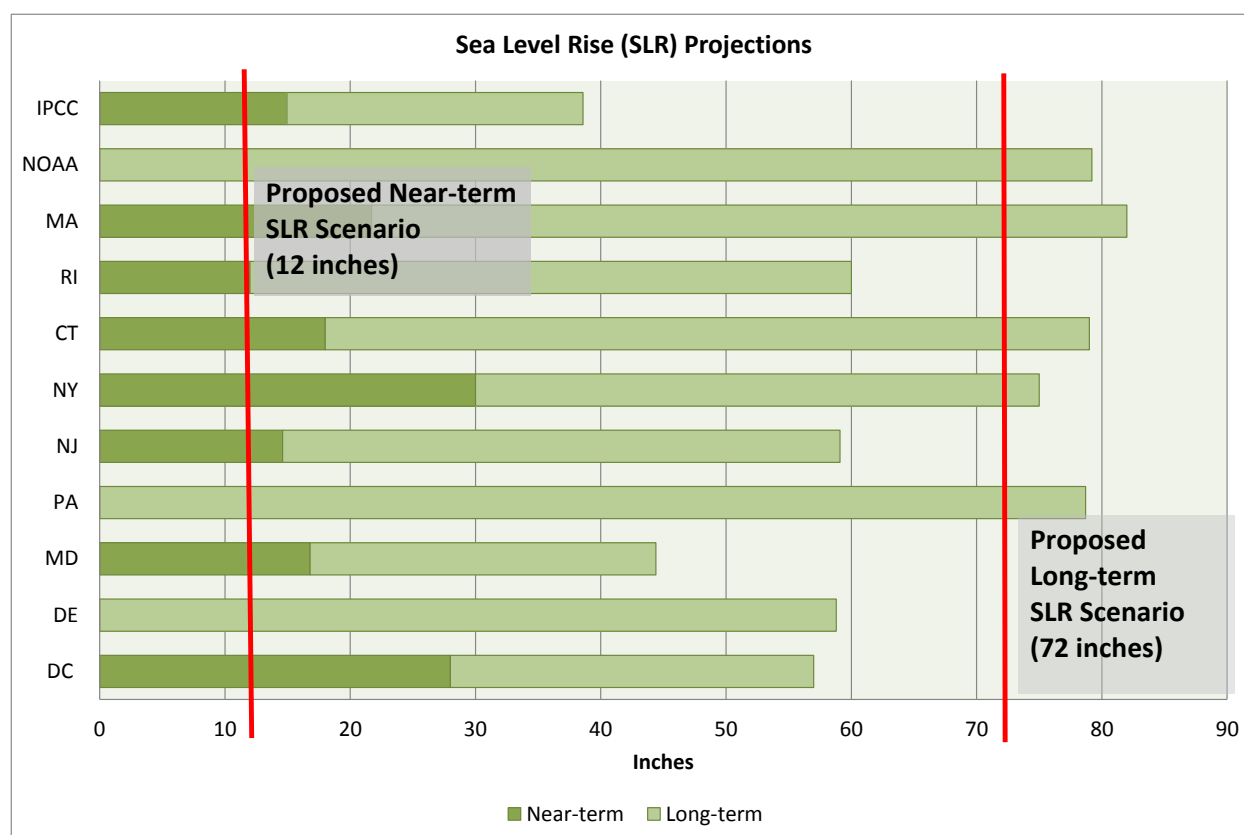
In the NEC FUTURE climate change effects assessment methodology, two sea level rise scenarios are proposed for analysis in the Tier 1 EIS – a near-term (mid-century) scenario and a long-term (end-of-century) scenario<sup>15</sup>. Considering two scenarios will enable the assessment of different levels of climate change-related effects that encompass the range of projections and forecast timeframes used by researchers and regulatory agencies in the northeast. The scenarios will be analyzed both on their own (looking at the areas that could be inundated permanently by sea level rise), and in combination with an extreme storm surge scenario (*currently, the 100-year FEMA coastal hazard zone; however, as planning for the program progresses, additional analysis of the 500-year FEMA coastal hazard zone may be undertaken*). Table 3 lists the sea level rise projections we propose to use for these scenarios, and this section provides the rationale for choosing these

<sup>15</sup> For purposes of the NEC FUTURE program, “mid-century” is defined as approximately 2040-2060 and “end-of-century” is defined as approximately 2075 – 2100+.

projections. Figure 2 illustrates the proposed projections and their relationship to the IPCC, NOAA and state based recommendations.

**TABLE 3. PROPOSED SEA LEVEL RISE PROJECTIONS FOR FRA NEC FUTURE TIER 1 EIS**

| Scenario       | Near-term<br>(mid-century) | Long-term<br>(end-of-century) |
|----------------|----------------------------|-------------------------------|
| Sea Level Rise | 12 in                      | 72 in                         |



**FIGURE 2: STATE BASED SEA LEVEL RISE RECOMMENDATIONS AND THE PROPOSED SEA LEVEL RISE PROJECTIONS FOR FRA NEC FUTURE TIER 1 EIS**

- ▶ Recognizing the need to use existing, readily available data, the proposed scenarios are one foot increments, as inundation extents for sea level rise inundation for these increments have already been mapped by NOAA.
- ▶ Twelve inches of global sea level rise mid-century is projected at the upper end of the likely range of the RCP2.6 greenhouse gas concentration scenario, and at approximately the mean of the RCP8.5 greenhouse gas concentration scenario (Figure 1, IPCC, 2013).

- ▶ Twelve inches is consistent with the range of state level recommendations for considering sea level rise in all states (where available) (refer to Figure 2 and Table 4).
- ▶ Seventy-two inches of sea level rise is within the highest scenario outlined in the 2012 NOAA Technical Memo (79.2 inches) and four of the state level recommendations (MA, CT, NY and PA (refer to Figure 2 and Table 4.). While considered a lower probability of occurrence (refer to Table 2), consideration of 72 inches of sea level rise will help to determine the greater extent of area that may be vulnerable to sea level rise and storm surge flooding.

**TABLE 4: SUMMARY OF STATE-BASED RECOMMENDED SEA LEVEL RISE PROJECTIONS RELEVANT TO THE FRA NEC FUTURE PROGRAM**

| State | Source                                                                                                                                                                                      | Near-term<br>(mid-century)<br>(inches) | Long-term<br>(end-of-century)<br>(inches) |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------|
| DC    | Adapting to a Changing Climate: Federal Agencies in the Washington, D.C. Metro Area (referenced to IPCC 2007) (2012)                                                                        | 7–28                                   | 13–57                                     |
| DE    | The Delaware Sea Level Rise Advisory Committee, Preparing for Tomorrow's High Tide: Recommendations for Adapting to Sea Level Rise in Delaware (2013)                                       | N/A                                    | 19.2–58.8                                 |
| MD    | CoastSmart Communities Program. Inc, including Climate Change and Coast Smart Construction Infrastructure Siting and Design Guidelines (January 2014)                                       | 16.8                                   | 44.4                                      |
| PA    | Department of Environmental Protection (DEP), Pennsylvania Climate Adaptation Planning Report: Risks and Practical Recommendations (January 2011)                                           | N/A                                    | 39.4–78.7                                 |
| NJ    | FHWA Climate Change Vulnerability Assessment Pilot Project – North Jersey Transportation Planning Authority (NJTPA) (November 2011)                                                         | 6.1–14.6                               | 19.7–59.1                                 |
| NY    | 2014 web based update of projections presented in the New York City Panel on Climate Change, Climate Risk Information 2013 Observations, Climate Change Projections, and Maps <sup>16</sup> | 11–30                                  | 22–75                                     |
| CT    | Connecticut Department of Energy and Environmental Protection (DEEP), Coastal Hazards Mapping Tool, including Sea Level Rise Visualization Data (June 2012)                                 | 12–18                                  | 24–79                                     |
| RI    | Sea Level Rise Trends in Rhode Island: Trends and Impacts (Rhode Island Sea Grant, January 2013)                                                                                            | 12                                     | 36–60                                     |
| MA    | Sea Level Rise: Understanding and Applying Trends and Future Scenarios for Analysis and Planning (December 2013)                                                                            | 4.7–21.7                               | 9.7–82                                    |

\* If multiple sea level rise guidance documents were available for a given state, only the most recent sea level rise guidance recommendations was presented in the table.

<sup>16</sup> <http://www.nyc.gov/html/sirr/html/about/future.shtml>

# Application of Effects-Assessment Methodology

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## 15.1 CLIMATE CHANGE: APPLICATION OF EFFECTS-ASSESSMENT METHODOLOGY

### 15.1.1 Variations to Effects-Assessment Methodology

The following variations from the Effects-Assessment Methodology occurred during the process of developing the Tier 1 Draft EIS analysis:

- ▶ The acreage and percentage of the Representative Route for all Action Alternatives that falls within flood hazard areas was calculated. Rather than providing a qualitative discussion of flood areas “close” to the Representative Route, the assessment quantitatively estimated the acreage and percentage of the Affected Environment within each county along the Representative Routes of the Action Alternatives that are at risk of inundation under each climate scenario (i.e., current climate, mid-century, and end-of-century). This method was used to provide a consistent approach across the entire Study Area that has less ambiguity compared to interpreting what may be considered “close to hazard areas.”

### 15.1.2 Data Variations

There were no variations from the identified data sources in the Effects-Assessment Methodology during the development of the Tier 1 Draft EIS analysis.

### 15.1.3 Criteria for Analysis

#### Existing Conditions

- ▶ The criteria for estimating climate change existing conditions are explained in the Chapter 7.15, Climate Change, of the Tier 1 Draft EIS.

#### Environmental Consequences

- ▶ Environmental Consequences are qualitatively addressed in Chapter 7.15, Climate Change. More specific information is found within the various flooding scenarios discussed in the chapter.

#### Environmental Consequences – Stations

- ▶ Stations were analyzed using the flooding scenarios described in Chapter 7.15, Climate Change.

### 15.1.4 Data Limitations

The following list provides information relating to the limitations of the assessment of climate change impacts to the existing NEC and Action Alternatives:

- ▶ Site-specific modeling of inundation and flood risks was not undertaken. This assessment did not include the development of new, detailed inundation maps for future climate scenarios for all counties within the Study Area.
- ▶ The assessment used an extreme coastal storm surge or riverine flood event with a 1-percent annual chance of occurring in any given year (i.e., 100-year event). It should be noted that extreme events with greater return intervals (i.e., 500-year event with a 0.2-percent chance of occurring in a given year) can also occur, and could result in a greater inundated area.

- ▶ It is assumed that the bathymetry (i.e., topography of the sea floor) of near-shore coastal areas and the topography of the landward areas, including levees and other flood and shore protection features, would not change in response to sea level rise and increased inundation (i.e., the morphology of the region is constant over time).
- ▶ For each flooding resource, the assessment focused on identifying the spatial extent of inundation; the analysis did not consider the elevation of existing assets and therefore the likelihood of assets within a flood hazard area being inundated.
- ▶ The inundation and flooding assessment did not consider the potential duration of an inundation event.
- ▶ The inundation and flooding assessment relied on topographic data at a 5-meter horizontal elevation leveraged from National Oceanic and Atmospheric Administration (NOAA). Although this data set represents the best available consistent topographic data across the Study Area, and the data have undergone a rigorous quality assurance/quality control process by a third party, the data have not been extensively ground-truthed. Levee crests and other topographic features that affect flood conveyance may be overrepresented or underrepresented in the topographic data. Site-specific topographic information should be field verified as part of Tier 2 environmental compliance processes and project implementation.
- ▶ Two sea level rise scenarios (1 foot and 6 feet) were applied consistently across the Study Area. This approach did not account for potential regional variation of projected sea level rise or land subsidence.
- ▶ The assessment looked at both potential future permanent flooding (i.e., future increase in MHHW with sea level rise) and potential future temporary flooding (i.e., future increase in flooding associated with an extreme storm surge or riverine flood event).
- ▶ The projected changes in riverine flooding are based on a 2013 study titled *The Impact of Climate Change and Population Growth on the National Flood Insurance Program through 2100*. This study considered changes in climate conditions and estimated how the flood hazard areas across the United States may change. The study was intended to be a national assessment, with cautions provided on the use of the results at a local level. For this reason, the FRA applied the percentage increases in riverine flood hazard area for the Affected Environment only. Detail on the limitations associated with this national study can be found in the study's report.<sup>1</sup>
- ▶ A limitation to the approach used in this assessment is that if a county has zero acres at risk of riverine flooding under current climate conditions, it was estimated that it will also have zero acres at risk under mid- and end-of-century climate conditions (for example, a 20 percent increase on zero acres equals zero acres).

<sup>1</sup> Federal Insurance and Mitigation Administration (FIMA) & Federal Emergency Management Agency (FEMA). 2013. *The Impact of Climate Change and Population Growth on the National Flood Insurance Program through 2100*.

[http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=3&cad=rja&uact=8&ved=0CCwQFjAC&url=http%3A%2F%2Fwww.nfrmp.us%2Ffrmpw%2F2013webinarweek%2Fdocs%2FE3%2520Coastal%2520Climate%2520Change%2FE3\\_FEMA\\_MarkCrowell\\_climate\\_change3.pdf&ei=mP7kVL6PJ](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=3&cad=rja&uact=8&ved=0CCwQFjAC&url=http%3A%2F%2Fwww.nfrmp.us%2Ffrmpw%2F2013webinarweek%2Fdocs%2FE3%2520Coastal%2520Climate%2520Change%2FE3_FEMA_MarkCrowell_climate_change3.pdf&ei=mP7kVL6PJ)

- ▶ Due to the use of existing climate information, multiple sources of climate information were used across the resources (i.e., the assessment of extreme temperatures was based on CMIP5<sup>2</sup> climate projections, while the riverine flooding assessment was based on older CMIP3<sup>3</sup> projections that were used in the Federal Insurance & Mitigation Administration (FIMA) and FEMA flood study (2013)).
- ▶ The data used to calculate inundation acreage came from two separate sources and therefore some minor differences were found. The sea level rise data came from NOAA's SLR viewer and was calculated using a "bathtub model" where the sea level rise values (i.e., +1 feet, +6 feet) are added to the MHHW surface and subtracted from the terrain values. The 100-year storm surge data is part of FEMA's effective national flood hazard layer (NFHL) and are a result of detailed analysis. In some cases, counterintuitive results appeared in the two datasets where there are areas of greater inundation for MHHW than the 100-year stormwater surface (e.g., Suffolk, MA).
- ▶ There is potential overlap in the results of the coastal storm surge assessment and the riverine flooding assessment, since the riverine flooding assessment was based on the data used in the Floodplain analysis, which includes both riverine and coastal floodplains.
- ▶ To avoid making false assumptions, the assessment of flood risk for mid-century and end-of century scenarios assumed that no adaptation actions would be taken at a regional level, which may alter the flood risk or lessen the impacts of climate change on infrastructure across the Action Alternatives.
- ▶ The inundation and flooding assessment did not account for erosion, subsidence, future development or levee upgrades.

<sup>2</sup> CMIP5 refers to an archive of climate models from which the IPCC drew its climate simulations for the Fifth Assessment Report published in 2014.

<sup>3</sup> CMIP3 refers to an archive of climate models from which the IPCC drew its climate simulations for the Fourth Assessment Report published in 2007.

## Data Matrices – Occurrences

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## 15.2 DATA: STATIONS AT RISK OF INUNDATION

1 Table 15.2-1: Affected Environment: Stations at Risk of Inundation by Action Alternative under Current Climate Conditions

| State | County          | Station ID/type | Station Name                         | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |           |
|-------|-----------------|-----------------|--------------------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-----------|
|       |                 |                 |                                      |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |           |
|       |                 |                 |                                      |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester |
| MD    | Prince George's | 2/Existing      | New Carrollton                       | RF            | RF            | RF            |                           |             |                    |           |
|       | Anne Arundel    | 6/Existing      | BWI Airport                          | RF            | RF            | RF            |                           |             |                    |           |
|       | Anne Arundel    | 6/New           | BWI Airport H.S.                     |               |               | RF            |                           |             |                    |           |
|       | Baltimore       | 7/Existing      | Halethorpe                           | RF            | RF            | RF            |                           |             |                    |           |
|       | Baltimore City  | 10/Existing     | Baltimore Penn Station               | RF            | RF            | RF            |                           |             |                    |           |
|       | Baltimore City  | 13/New          | Bayview                              | RF            | RF            | RF            |                           |             |                    |           |
| DE    | New Castle      | 14/New          | Bayview H.S.                         |               |               | RF            |                           |             |                    |           |
|       | New Castle      | 26/New          | Newport                              | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       | New Castle      | 27/Existing     | Wilmington Station                   | SS,RF         | SS, RF        | SS, RF        |                           |             |                    |           |
|       | New Castle      | 29/Existing     | Claymont                             | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
| PA    | Delaware        | 32/Existing     | Chester                              | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       | Delaware        | 33/Existing     | Eddystone                            | SS, RF        | SS, RF        | SS, RF        |                           |             |                    |           |
|       | Delaware        | 34/New          | Baldwin                              | SS,RF         | SS, RF        | SS, RF        |                           |             |                    |           |
|       | Delaware        | 35/Existing     | Crum Lynne                           | RF            | RF            | RF            |                           |             |                    |           |
|       | Delaware        | 41/Existing     | Sharon Hill                          | RF            | RF            | RF            |                           |             |                    |           |
|       | Delaware        | 43/Existing     | Darby                                | SS, RF        | SS, RF        | SS, RF        |                           |             |                    |           |
|       | Delaware        |                 |                                      |               |               |               |                           |             |                    |           |
|       | Philadelphia    | 44/Existing     | Philadelphia Airport                 |               | SS            | SS, RF        |                           |             |                    |           |
|       | Philadelphia    | 45/Existing     | Philadelphia 30 <sup>th</sup> Street | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       | Philadelphia    | 52/Existing     | Torresdale                           | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
| PA    | Bucks           | 55/Existing     | Croyton                              | RF            | RF            | RF            |                           |             |                    |           |

(continued)

| State | County      | Station ID/type | Station Name             | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |           |
|-------|-------------|-----------------|--------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-----------|
|       |             |                 |                          |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |           |
|       |             |                 |                          |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester |
| NJ    | Mercer      | 58/Existing     | Trenton                  | RF            | RF            | RF            |                           |             |                    |           |
|       | Middlesex   | 63/Existing     | Jersey Avenue            | RF            | RF            | RF            |                           |             |                    |           |
|       |             | 67/Existing     | Metropark                | RF            | RF            | RF            |                           |             |                    |           |
|       | Middlesex   | 68/New          | Metropark H.S.           |               |               | RF            |                           |             |                    |           |
|       | Union       | 69/Existing     | Rahway                   | SS, RF        | SS, RF        | SS, RF        |                           |             |                    |           |
|       |             | 70/Existing     | Linden                   | RF            | RF            | RF            |                           |             |                    |           |
|       | Essex       | 73/Existing     | Newark Airport           | SS, RF        |               | SS, RF        |                           |             |                    |           |
|       |             | 74/Existing     | Newark Penn Station      | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       |             | 75/Existing     | Newark Penn Station H.S. |               |               | SLR, SS, RF   |                           |             |                    |           |
| NY    | Hudson      | 76/Existing     | Secaucus                 | SS, RF        | SS, RF        | SS, RF        |                           |             |                    |           |
|       | Bronx       | 78/New          | Hunts Point              | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 80/New          | Morris Park              | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 81/New          | Co-op City               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |           |
|       | Westchester | 84/Existing     | Mamaroneck               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |           |
|       |             | 85/Existing     | Harrison                 | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 86/Existing     | Rye                      | RF            | RF            |               | RF                        | RF          |                    |           |
|       | Westchester | 87/New          | Cross-Westchester        | RF            | RF            |               | RF                        | RF          |                    |           |
|       | Westchester | 88/Existing     | Port Chester             | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |           |

(continued)

| State | County     | Station ID/type | Station Name           | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |             |
|-------|------------|-----------------|------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-------------|
|       |            |                 |                        |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |             |
|       |            |                 |                        |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester   |
| CT    | Fairfield  | 89/Existing     | Greenwich              | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 90/Existing     | Cos Cob                | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 92/Existing     | Old Greenwich          | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 93/Existing     | Stamford               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 97/Existing     | Rowayton               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 100/Existing    | Westport               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 101/Existing    | Greens Farms           | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 102/Existing    | Southport              | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 105/Existing    | Bridgeport             | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 108/Existing    | Stratford              | RF            | RF            |               | RF                        | RF          |                    |             |
|       | New Haven  | 109/Existing    | Milford                | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 110/Existing    | West Haven             | RF            | RF            |               | RF                        | RF          |                    |             |
|       |            | 111/Existing    | New Haven Station      | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       | New Haven  | 112/New         | New Haven Station H.S. |               | SS, RF        |               | SS                        | SS, RF      |                    |             |
|       | New Haven  | 113/Existing    | New Haven State Street | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 114/Existing    | Branford               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 115/Existing    | Guilford               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       | New Haven  | 155/New         | Waterbury South        |               |               |               | RF                        |             |                    |             |
|       |            | 156/New         | Meriden H.S.           |               | RF            |               |                           | RF          |                    |             |
|       | Hartford   | 161/New         | Newington              |               | RF            |               | RF                        | RF          | RF                 | RF          |
|       | Middlesex  | 118/Existing    | Westbrook              | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|       | New London | 121/Existing    | New London             | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|       |            | 122/Existing    | Mystic                 | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |

(continued)

| State                          | County     | Station ID/type | Station Name            | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |             |
|--------------------------------|------------|-----------------|-------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-------------|
|                                |            |                 |                         |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |             |
|                                |            |                 |                         |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester   |
| RI                             | Washington | 123/Existing    | Westerly                | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|                                |            | 126/Existing    | Wickford Junction       | RF            | RF            |               |                           |             | RF                 | RF          |
|                                | Providence | 128/Existing    | Providence Station      | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|                                | Providence | 129/New         | Providence Station H.S. |               | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
| MA                             | Bristol    | 132/Existing    | Attleboro               | RF            | RF            |               |                           |             | RF                 | RF          |
|                                |            | 133/Existing    | Mansfield               | RF            | RF            |               |                           |             | RF                 | RF          |
|                                | Norfolk    | 134/Existing    | Sharon                  | RF            | RF            |               |                           |             | RF                 | RF          |
|                                |            | 136/Existing    | Rte. 128                | RF            | RF            |               |                           |             | RF                 | RF          |
|                                | Worcester  | 175/New         | Blue Star Hwy (I-495)   |               |               |               |                           |             |                    | RF          |
|                                | Suffolk    | 143/Existing    | Boston South Station    | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
| Stations at Risk of Inundation |            |                 |                         | 61            | 65            | 30            | 27                        | 27          | 13                 | 14          |
| TOTAL New                      |            |                 |                         | 7             | 10            | 6             | 7                         | 7           | 2                  | 3           |
| TOTAL Existing                 |            |                 |                         | 54            | 55            | 24            | 20                        | 20          | 11                 | 11          |

Source: FRA, 2015

SLR= Station footprint intersects sea level rise flooding hazard area.

SS = Station footprint intersects coastal storm surge flooding hazard area.

RF= Station footprint intersects riverine flooding hazard area. This is based on assessment undertaken as a part of the Hydrologic/Water Resource (floodplains) effects-assessment methodology.

1 Table 15.2-2: Affected Environment: Stations at Risk of Inundation by Action Alternative under Mid-Century Climate Conditions

| State       | County          | Station ID/type | Station Name                      | Alternative 1 | Alternative 2 | Alternative 3 |                           |                 |                    |               |
|-------------|-----------------|-----------------|-----------------------------------|---------------|---------------|---------------|---------------------------|-----------------|--------------------|---------------|
|             |                 |                 |                                   |               |               | D.C. to NY    | New York City to Hartford |                 | Hartford to Boston |               |
|             |                 |                 |                                   |               |               |               | via Central Connecticut   | via Long Island | via Providence     | via Worcester |
| MD          | Prince George's | 2/Existing      | New Carrollton                    | RF            | RF            | RF            |                           |                 |                    |               |
|             | Anne Arundel    | 6/Existing      | BWI Airport                       | RF            | RF            | RF            |                           |                 |                    |               |
|             | Anne Arundel    | 6/New           | BWI Airport H.S.                  |               |               | RF            |                           |                 |                    |               |
|             | Baltimore       | 7/Existing      | Halethorpe                        | RF            | RF            | RF            |                           |                 |                    |               |
|             | Baltimore City  | 10/Existing     | Baltimore Penn station            | RF            | RF            | RF            |                           |                 |                    |               |
|             | Baltimore City  | 13/New          | Bayview                           | RF            | RF            | RF            |                           |                 |                    |               |
|             |                 | 14/New          | Bayview H.S.                      |               |               | RF            |                           |                 |                    |               |
| DE          | New Castle      | 26/New          | Newport                           | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|             | New Castle      | 27/Existing     | Wilmington Station                | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|             | New Castle      | 28/New          | Edgemoor                          | SS            | SS            | SS            |                           |                 |                    |               |
|             | New Castle      | 29/Existing     | Claymont                          | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
| PA          | Delaware        | 32/Existing     | Chester                           | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|             |                 | 33/Existing     | Eddystone                         | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|             | Delaware        | 34/New          | Baldwin                           | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|             | Delaware        | 35/Existing     | Crum Lynne                        | RF            | RF            | RF            |                           |                 |                    |               |
|             |                 | 41/Existing     | Sharon Hill                       | RF            | RF            | RF            |                           |                 |                    |               |
|             |                 | 42/Existing     | Curtis Park                       | SS            | SS            | SS            |                           |                 |                    |               |
|             |                 | 43/Existing     | Darby                             | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|             | Philadelphia    | 44/Existing     | Philadelphia Airport              |               | SS            | SS, RF        |                           |                 |                    |               |
|             |                 | 45/Existing     | Philadelphia 30 <sup>th</sup> St. | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|             |                 | 51/Existing     | Holmesburg Junction               | SS            | SS            | SS            |                           |                 |                    |               |
|             |                 | 52/Existing     | Torresdale                        | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|             | Bucks           | 52/Existing     |                                   | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
| 55/Existing |                 | Croyton         | RF                                | RF            | RF            |               |                           |                 |                    |               |

(continued)

| State | County      | Station ID/type | Station Name             | Alternative 1 | Alternative 2 | Alternative 3 |                           |                 |                    |               |
|-------|-------------|-----------------|--------------------------|---------------|---------------|---------------|---------------------------|-----------------|--------------------|---------------|
|       |             |                 |                          |               |               | D.C. to NY    | New York City to Hartford |                 | Hartford to Boston |               |
|       |             |                 |                          |               |               |               | via Central Connecticut   | via Long Island | via Providence     | via Worcester |
| NJ    | Mercer      | 58/Existing     | Trenton                  | RF            | RF            | RF            |                           |                 |                    |               |
|       | Middlesex   | 63/Existing     | Jersey Avenue            | RF            | RF            | RF            |                           |                 |                    |               |
|       | Middlesex   | 68/New          | Metropark H.S.           |               |               | RF            |                           |                 |                    |               |
|       | Union       | 69/Existing     | Rahway                   | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|       |             | 70/Existing     | Linden                   | RF            | RF            | RF            |                           |                 |                    |               |
|       |             | 71/Existing     | Elizabeth                | SS            | SS            | SS            |                           |                 |                    |               |
|       | Essex       | 73/Existing     | Newark Airport           | SS, RF        |               | SS, RF        |                           |                 |                    |               |
|       |             | 74/Existing     | Newark Penn Station      | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       |             | 75/Existing     | Newark Penn Station H.S. |               |               | SLR, SS, RF   |                           |                 |                    |               |
|       | Hudson      | 76/Existing     | Secaucus                 | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
| NY    | Bronx       | 78/New          | Hunts Point              | RF            | RF            |               | RF                        | RF              |                    |               |
|       |             | 80/New          | Morris Park              | RF            | RF            |               | RF                        | RF              |                    |               |
|       |             | 81/New          | Co-op City               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF     |                    |               |
|       | Westchester | 84/Existing     | Mamaroneck               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |             | 85/Existing     | Harrison                 | RF            | RF            |               | RF                        | RF              |                    |               |
|       |             | 86/Existing     | Rye                      | RF            | RF            |               | RF                        | RF              |                    |               |
|       | Westchester | 87/New          | Cross-Westchester        | RF            | RF            |               | RF                        | RF              |                    |               |
|       | Westchester | 88/Existing     | Port Chester             | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |

(continued)

| State | County    | Station ID/type | Station Name           | Alternative 1 | Alternative 2 | Alternative 3 |                           |                 |                    |               |
|-------|-----------|-----------------|------------------------|---------------|---------------|---------------|---------------------------|-----------------|--------------------|---------------|
|       |           |                 |                        |               |               | D.C. to NY    | New York City to Hartford |                 | Hartford to Boston |               |
|       |           |                 |                        |               |               |               | via Central Connecticut   | via Long Island | via Providence     | via Worcester |
| CT    | Fairfield | 89/Existing     | Greenwich              | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 90/Existing     | Cos Cob                | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 92/Existing     | Old Greenwich          | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 93/Existing     | Stamford               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF     |                    |               |
|       | Fairfield | 94/New          | Stamford H.S.          | SS            |               |               |                           |                 |                    |               |
|       | Fairfield | 97/Existing     | Rowayton               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 98/Existing     | South Norwalk          | SS            | SS            |               | SS                        | SS              |                    |               |
|       |           | 100/Existing    | Westport               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF     |                    |               |
|       |           | 101/Existing    | Greens Farms           | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 102/Existing    | Southport              | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 103/Existing    | Fairfield              | SS            | SS            |               | SS                        | SS              |                    |               |
|       |           | 104/Existing    | Fairfield Metro        | SS            | SS            |               | SS                        | SS              |                    |               |
|       |           | 105/Existing    | Bridgeport             | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF     |                    |               |
|       | Fairfield | 107/New         | East Bridgeport        |               |               |               | RF                        |                 |                    |               |
|       | Fairfield | 108/Existing    | Stratford              | RF            | RF            |               | RF                        | RF              |                    |               |
|       | New Haven | 109/Existing    | Milford                | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 110/Existing    | West Haven             | RF            | RF            |               | RF                        | RF              |                    |               |
|       |           | 111/Existing    | New Haven Station      | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       | New Haven | 112/New         | New Haven Station H.S. |               | SS, RF        |               |                           | SS, RF          |                    |               |
|       | New Haven | 113/Existing    | New Haven State Street | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 114/Existing    | Branford               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF          |                    |               |
|       |           | 115/Existing    | Guilford               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF     |                    |               |
|       | New Haven | 155/New         | Waterbury South        |               |               |               | RF                        |                 |                    |               |
|       |           | 156/New         | Meriden H.S.           |               | RF            |               |                           | RF              |                    |               |
|       | Hartford  | 161/New         | Newington              |               | RF            |               | RF                        | RF              | RF                 | RF            |

(continued)

| State                                            | County     | Station ID/type | Station Name            | Alternative 1 | Alternative 2 | Alternative 3 |                           |                 |                    |               |
|--------------------------------------------------|------------|-----------------|-------------------------|---------------|---------------|---------------|---------------------------|-----------------|--------------------|---------------|
|                                                  |            |                 |                         |               |               | D.C. to NY    | New York City to Hartford |                 | Hartford to Boston |               |
|                                                  |            |                 |                         |               |               |               | via Central Connecticut   | via Long Island | via Providence     | via Worcester |
| CT<br>(cont'd)                                   | Middlesex  | 117/Existing    | Clinton                 | SS            | SS            |               |                           |                 | SS                 | SS            |
|                                                  |            | 118/Existing    | Westbrook               | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
|                                                  | Middlesex  | 120/New         | Old Saybrook H.S.       | SS            |               |               |                           |                 |                    |               |
|                                                  | New London | 121/Existing    | New London              | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
|                                                  |            | 122/Existing    | Mystic                  | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
| RI                                               | Washington | 123/Existing    | Westerly                | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
|                                                  |            | 126/Existing    | Wickford Junction       | RF            | RF            |               |                           |                 | RF                 | RF            |
|                                                  | Providence | 128/Existing    | Providence Station      | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
|                                                  | Providence | 129/New         | Providence Station H.S. |               | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
| MA                                               | Bristol    | 132/Existing    | Attleboro               | RF            | RF            |               |                           |                 | RF                 | RF            |
|                                                  |            | 133/Existing    | Mansfield               | RF            | RF            |               |                           |                 | RF                 | RF            |
|                                                  | Norfolk    | 134/Existing    | Sharon                  | RF            | RF            |               |                           |                 | RF                 | RF            |
|                                                  |            | 136/Existing    | Rte. 128                | RF            | RF            |               |                           |                 | RF                 | RF            |
|                                                  | Worcester  | 175/ New        | Blue Star Hwy (I-495)   |               |               |               |                           |                 |                    | RF            |
|                                                  | Suffolk    | 138/Existing    | Hyde Park               | SS            | SS            |               |                           |                 | SS                 | SS            |
|                                                  |            | 143/Existing    | Boston South Station    | SLR, SS, RF   | SLR, SS, RF   |               |                           |                 | SLR, SS, RF        | SLR, SS, RF   |
| Total New Stations at risk of inundation         |            |                 |                         | 10            | 12            | 7             | 23                        | 23              | 2                  | 3             |
| Total Existing Stations at risk of inundation    |            |                 |                         | 61            | 61            | 27            | 7                         | 7               | 13                 | 13            |
| Total Stations at risk of inundation             |            |                 |                         | 71            | 73            | 34            | 30                        | 30              | 15                 | 16            |
| Stations at risk of inundation from SLR flooding |            |                 |                         | 20            | 21            | 9             | 5                         | 5               | 8                  | 8             |

Source: FRA, 2015

SLR= Station footprint intersects sea level rise flooding hazard area under mid-century climate conditions.

SS = Station footprint intersects coastal storm surge flooding hazard area under mid-century climate conditions.

RF= Station footprint intersects riverine flooding hazard area under current climate conditions. This is based on assessment undertaken as a part of the Hydrologic/Water Resource (floodplains) methodology and does not include an assessment of which additional stations may be at risk from future changes in riverine flood hazard areas.

H.S. = high speed

Table 15.2-3: Affected Environment: Stations at Risk of Inundation by Action Alternative under End-of-Century Climate Conditions

| State | County          | Station ID/type | Station Name           | Alternative 1 | Alternative 2 | Alternative 3 |                           |                 |                    |               |
|-------|-----------------|-----------------|------------------------|---------------|---------------|---------------|---------------------------|-----------------|--------------------|---------------|
|       |                 |                 |                        |               |               | D.C. to NY    | New York City to Hartford |                 | Hartford to Boston |               |
|       |                 |                 |                        |               |               |               | via Central Connecticut   | via Long Island | via Providence     | via Worcester |
| MD    | Prince George's | 2/Existing      | New Carrollton         | RF            | RF            | RF            |                           |                 |                    |               |
|       | Anne Arundel    | 6/Existing      | BWI Airport            | RF            | RF            | RF            |                           |                 |                    |               |
|       | Anne Arundel    | 6/New           | BWI Airport H.S.       |               |               | RF            |                           |                 |                    |               |
|       | Baltimore       | 7/Existing      | Halethorpe             | RF            | RF            | RF            |                           |                 |                    |               |
|       | Baltimore City  | 10/Existing     | Baltimore Penn Station | RF            | RF            | RF            |                           |                 |                    |               |
|       | Baltimore City  | 13/New          | Bayview                | RF            | RF            | RF            |                           |                 |                    |               |
| DE    | New Castle      | 26/New          | Newport                | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       | New Castle      | 27/Existing     | Wilmington Station     | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       | New Castle      | 28/New          | Edgemoor               | SS            | SS            | SS            |                           |                 |                    |               |
|       | New Castle      | 29/Existing     | Claymont               | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
| PA    | Delaware        | 32/Existing     | Chester                | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       |                 | 33/Existing     | Eddystone              | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       | Delaware        | 34/New          | Baldwin                | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       | Delaware        | 35/Existing     | Crum Lynne             | RF            | RF            | RF            |                           |                 |                    |               |
|       |                 | 41/Existing     | Sharon Hill            | RF            | RF            | RF            |                           |                 |                    |               |
|       |                 | 42/Existing     | Curtis Park            | SS            | SS            | SS            |                           |                 |                    |               |
|       |                 | 43/Existing     | Darby                  | SS, RF        | SS, RF        | SS, RF        |                           |                 |                    |               |
|       | Philadelphia    | 44/Existing     | Philadelphia Airport   |               | SLR, SS       | SLR, SS, RF   |                           |                 |                    |               |
|       |                 | 45/Existing     | Philadelphia 30th St   | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       |                 | 51/Existing     | Holmesburg Junction    | SS            | SS            | SS            |                           |                 |                    |               |
|       |                 | 52/Existing     | Torresdale             | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |                 |                    |               |
|       | Bucks           | 55/Existing     | Croyton                | SLR, RF       | RF            | RF            |                           |                 |                    |               |

(continued)

| State | County      | Station ID/type | Station Name             | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |           |
|-------|-------------|-----------------|--------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-----------|
|       |             |                 |                          |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |           |
|       |             |                 |                          |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester |
| NJ    | Mercer      | 58/Existing     | Trenton                  | RF            | RF            | RF            |                           |             |                    |           |
|       | Middlesex   | 63/Existing     | Jersey eAven             | RF            | RF            | RF            |                           |             |                    |           |
|       |             | 67/Existing     | Metropark                | RF            | RF            | RF            |                           |             |                    |           |
|       | Middlesex   | 68/New          | Metropark H.S.           |               |               | RF            |                           |             |                    |           |
|       | Union       | 69/Existing     | Rahway                   | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       |             | 70/Existing     | Linden                   | SLR, RF       | SLR, RF       | SLR, RF       |                           |             |                    |           |
|       |             | 71/Existing     | Elizabeth                | SS            | SS            | SS            |                           |             |                    |           |
|       | Essex       | 73/Existing     | Newark Airport           | SLR, SS, RF   |               | SLR, SS, RF   |                           |             |                    |           |
|       |             | 74/Existing     | Newark Penn Station      | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
|       |             | 75/Existing     | Newark Penn Station H.S. |               |               | SLR, SS, RF   |                           |             |                    |           |
|       | Hudson      | 76/Existing     | Secaucus                 | SLR, SS, RF   | SLR, SS, RF   | SLR, SS, RF   |                           |             |                    |           |
| NY    | Bronx       | 78/New          | Hunts Point              | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 80/New          | Morris Park              | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 81/New          | Co-op city               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |           |
|       | Westchester | 84/Existing     | Mamaroneck               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |           |
|       |             | 85/Existing     | Harrison                 | RF            | RF            |               | RF                        | RF          |                    |           |
|       |             | 86/Existing     | Rye                      | RF            | RF            |               | RF                        | RF          |                    |           |
|       | Westchester | 87/New          | Cross-Westchester        | RF            | RF            |               | RF                        | RF          |                    |           |
|       | Westchester | 88/Existing     | Port Chester             | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |           |
|       |             |                 |                          |               |               |               |                           |             |                    |           |

(continued)

| State | County     | Station ID/type | Station Name           | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |             |
|-------|------------|-----------------|------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-------------|
|       |            |                 |                        |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |             |
|       |            |                 |                        |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester   |
| CT    | Fairfield  | 89/Existing     | Greenwich              | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 90/Existing     | Cos Cob                | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 92/Existing     | Old Greenwich          | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 93/Existing     | Stamford               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       | Fairfield  | 94/New          | Stamford H.S.          | SLR, SS       |               |               |                           |             |                    |             |
|       | Fairfield  | 97/Existing     | Rowayton               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 98/Existing     | South Norwalk          | SS            | SS            |               | SS                        | SS          |                    |             |
|       |            | 100/Existing    | Westport               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 101/Existing    | Greens Farms           | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 102/Existing    | Southport              | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 103/Existing    | Fairfield              | SS            | SS            |               | SS                        | SS          |                    |             |
|       |            | 104/Existing    | Fairfield Metro        | SS            | SS            |               | SS                        | SS          |                    |             |
|       |            | 105/Existing    | Bridgeport             | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 108/Existing    | Stratford              | RF            | RF            |               | RF                        | RF          |                    |             |
|       | New Haven  | 109/Existing    | Milford                | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 110/Existing    | West Haven             | RF            | RF            |               | RF                        | RF          |                    |             |
|       |            | 111/Existing    | New Haven Station      | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       | New Haven  | 112/New         | New Haven Station H.S. |               | SLR, SS, RF   |               |                           | SLR, SS, RF |                    |             |
|       | New Haven  | 113/Existing    | New Haven State Street | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       |            | 114/Existing    | Branford               | SS, RF        | SS, RF        |               | SS, RF                    | SS, RF      |                    |             |
|       |            | 115/Existing    | Guilford               | SLR, SS, RF   | SLR, SS, RF   |               | SLR, SS, RF               | SLR, SS, RF |                    |             |
|       | New Haven  | 156/New         | Meriden H.S.           |               | RF            |               | RF                        | RF          |                    |             |
|       | Hartford   | 161/New         | Newington              |               | RF            |               | RF                        | RF          | RF                 | RF          |
|       | Middlesex  | 117/Existing    | Clinton                | SS            | SS            |               |                           |             | SS                 | SS          |
|       |            | 118/Existing    | Westbrook              | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|       | Middlesex  | 120/New         | Old Saybrook H.S.      | SS            |               |               |                           |             |                    |             |
|       | New London | 121/Existing    | New London             | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|       |            | 122/Existing    | Mystic                 | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |

(continued)

| State                                                  | County     | Station ID/type | Station Name            | Alternative 1 | Alternative 2 | Alternative 3 |                           |             |                    |             |
|--------------------------------------------------------|------------|-----------------|-------------------------|---------------|---------------|---------------|---------------------------|-------------|--------------------|-------------|
|                                                        |            |                 |                         |               |               | D.C. to NY    | New York City to Hartford |             | Hartford to Boston |             |
|                                                        |            |                 |                         |               |               |               | Central Connecticut       | Long Island | Providence         | Worcester   |
| RI                                                     | Washington | 123/Existing    | Westerly                | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|                                                        |            | 126/Existing    | Wickford Junction       | RF            | RF            |               |                           |             | RF                 | RF          |
|                                                        | Providence | 128/Existing    | Providence Station      | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
|                                                        | Providence | 129/New         | Providence Station H.S. |               | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
| MA                                                     | Bristol    | 132/Existing    | Attleboro               | RF            | RF            |               |                           |             | RF                 | RF          |
|                                                        |            | 133/Existing    | Mansfield               | RF            | RF            |               |                           |             | RF                 | RF          |
|                                                        | Norfolk    | 134/Existing    | Sharon                  | RF            | RF            |               |                           |             | RF                 | RF          |
|                                                        |            | 136/Existing    | Rt. 128                 | RF            | RF            |               |                           |             | RF                 | RF          |
|                                                        | Worcester  | 175/New         | Blue Star Hwy (I-495)   |               |               |               |                           |             |                    | RF          |
|                                                        | Suffolk    | 138/Existing    | Hyde Park               | SS            | SS            |               |                           |             | SS                 | SS          |
|                                                        |            | 140/Existing    | Ruggles Street          | SLR           | SLR           |               |                           |             | SLR                | SLR         |
|                                                        |            | 141/Existing    | Back Bay                | SLR           | SLR           |               |                           |             | SLR                | SLR         |
|                                                        | Suffolk    | 142/New         | Back Bay H.S.           |               |               |               |                           |             | SLR                | SLR         |
|                                                        | Suffolk    | 143/Existing    | Boston south Station    | SLR, SS, RF   | SLR, SS, RF   |               |                           |             | SLR, SS, RF        | SLR, SS, RF |
| Total Stations at Risk of Inundation                   |            |                 |                         | 73            | 75            | 33            | 29                        | 30          | 18                 | 19          |
| Total New Stations at Risk of Inundation               |            |                 |                         | 10            | 12            | 7             | 6                         | 7           | 2                  | 3           |
| Total Existing Stations at Risk of Inundation          |            |                 |                         | 63            | 63            | 26            | 23                        | 23          | 16                 | 16          |
| Total Stations at Risk of Inundation from SLR Flooding |            |                 |                         | 34            | 34            | 14            | 11                        | 12          | 7                  | 7           |

Source: FRA, 2015

SLR= Station footprint intersects sea level rise flooding hazard area under end-of-century climate conditions.

SS = Station footprint intersects coastal storm surge flooding hazard area under end-of-century climate conditions.

RF= Station footprint intersects riverine flooding hazard area under current climate conditions. This is based on assessment undertaken as a part of the Hydrologic/Water Resource (floodplains) methodology and does not include an assessment of which additional stations may be at risk from future changes in riverine flood hazard areas.

H.S. = high speed

## Data Matrices – Number of Acres

Current Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 30           | 30            | 30            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 4            | 4             | 4             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore            | 20           | 20            | 20            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       |              |               |               | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 110          | 110           | 110           | 190                                                          | 190                                               | 190                                              | 190                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 570          | 570           | 775           | 740                                                          | 740                                               | 740                                              | 740                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 15           | 15            | 110           | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 185          | 185           | 345           | 325                                                          | 325                                               | 325                                              | 325                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 265          | 265           | 265           | 275                                                          | 275                                               | 275                                              | 275                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 25           | 25            | 30            | 30                                                           | 30                                                | 30                                               | 30                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 5            | 5             | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 40           | 40            | 40            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 305          | 325           | 355           | 450                                                          | 450                                               | 450                                              | 450                                                         |                                                                                            |               |                                                  |               | 35                                                        | 1                                                                    | 1                                                         | 1                                                        | 1                                                                   |
| 18 | New York             | 95           | 120           | 120           | 140                                                          | 140                                               | 140                                              | 140                                                         |                                                                                            |               |                                                  |               | 95                                                        | 110                                                                  | 105                                                       | 105                                                      | 110                                                                 |
| 19 | Queens               | 15           | 15            | 40            | 40                                                           | 65                                                | 65                                               | 40                                                          |                                                                                            |               |                                                  |               | 15                                                        | 40                                                                   | 60                                                        | 60                                                       | 40                                                                  |
| 20 | Kings                | 3            | 3             | 15            | 15                                                           | 40                                                | 40                                               | 15                                                          |                                                                                            |               |                                                  |               | 3                                                         | 15                                                                   | 40                                                        | 40                                                       | 15                                                                  |
| 21 | Bronx                | 35           | 35            | 35            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                            |               |                                                  |               | 35                                                        | 35                                                                   |                                                           |                                                          | 35                                                                  |
| 22 | Westchester          | 5            | 5             | 15            | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 40                                                | 40                                               |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 40                                                        | 40                                                       |                                                                     |
| 26 | Fairfield            | 165          | 200           | 220           | 200                                                          | 200                                               | 200                                              | 200                                                         |                                                                                            |               |                                                  |               | 165                                                       | 40                                                                   | 40                                                        | 40                                                       | 40                                                                  |
| 27 | New Haven            | 475          | 475           | 505           | 475                                                          | 535                                               | 535                                              | 475                                                         |                                                                                            |               | 385                                              | 55            | 475                                                       |                                                                      | 135                                                       | 135                                                      |                                                                     |
| 28 | Middlesex            | 195          | 225           | 195           | 195                                                          | 195                                               | 195                                              | 195                                                         | 60                                                                                         | 90            | 195                                              |               | 195                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 725          | 855           | 725           | 725                                                          | 725                                               | 725                                              | 725                                                         | 725                                                                                        | 210           | 725                                              |               | 725                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 70            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  | 70            |                                                           | 70                                                                   | 70                                                        | 70                                                       | 70                                                                  |
| 33 | Washington           | 25           | 40            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          | 25                                                                                         | 25            | 25                                               |               | 25                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 50           | 50            | 50            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                            |               | 50                                               |               | 50                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 20           | 20            | 55            | 55                                                           | 55                                                | 20                                               | 20                                                          |                                                                                            |               | 20                                               | 45            | 20                                                        | 45                                                                   | 45                                                        |                                                          |                                                                     |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 50                                               | 50                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 50                                                       | 50                                                                  |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk              | 45           | 45            | 45            | 45                                                           | 45                                                | 90                                               | 90                                                          |                                                                                            |               |                                                  |               | 45                                                        | 45                                                                   | 45                                                        | 90                                                       | 90                                                                  |

Mid-Century Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 35           | 35            | 35            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 4  | Howard               | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore            | 40           | 40            | 40            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       |              |               |               | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 120          | 120           | 120           | 235                                                          | 235                                               | 235                                              | 235                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 620          | 620           | 900           | 915                                                          | 915                                               | 915                                              | 915                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 15           | 15            | 140           | 80                                                           | 80                                                | 80                                               | 80                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 190          | 190           | 355           | 330                                                          | 330                                               | 330                                              | 330                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 270          | 270           | 270           | 285                                                          | 285                                               | 285                                              | 285                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 30           | 30            | 30            | 30                                                           | 30                                                | 30                                               | 30                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 40           | 40            | 40            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 375          | 395           | 425           | 550                                                          | 550                                               | 550                                              | 550                                                         |                                                                                            |               |                                                  |               | 35                                                        | 1                                                                    | 1                                                         | 1                                                        | 1                                                                   |
| 18 | New York             | 95           | 120           | 120           | 140                                                          | 140                                               | 140                                              | 140                                                         |                                                                                            |               |                                                  |               | 95                                                        | 110                                                                  | 105                                                       | 105                                                      | 110                                                                 |
| 19 | Queens               | 15           | 15            | 45            | 45                                                           | 65                                                | 65                                               | 45                                                          |                                                                                            |               |                                                  |               | 15                                                        | 40                                                                   | 65                                                        | 65                                                       | 40                                                                  |
| 20 | Kings                | 4            | 4             | 20            | 20                                                           | 40                                                | 40                                               | 20                                                          |                                                                                            |               |                                                  |               | 4                                                         | 20                                                                   | 40                                                        | 40                                                       | 20                                                                  |
| 21 | Bronx                | 45           | 45            | 45            | 45                                                           | 45                                                | 45                                               | 45                                                          |                                                                                            |               |                                                  |               | 45                                                        | 45                                                                   |                                                           |                                                          | 45                                                                  |
| 22 | Westchester          | 10           | 10            | 15            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               | 10                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 40                                                | 40                                               |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 40                                                        | 40                                                       |                                                                     |
| 26 | Fairfield            | 200          | 230           | 255           | 230                                                          | 230                                               | 230                                              | 230                                                         |                                                                                            |               |                                                  |               | 200                                                       | 45                                                                   | 45                                                        | 45                                                       | 45                                                                  |
| 27 | New Haven            | 735          | 735           | 775           | 735                                                          | 815                                               | 815                                              | 735                                                         |                                                                                            |               | 625                                              | 65            | 735                                                       |                                                                      | 170                                                       | 170                                                      |                                                                     |
| 28 | Middlesex            | 380          | 415           | 380           | 380                                                          | 380                                               | 380                                              | 380                                                         | 120                                                                                        | 145           | 380                                              |               | 380                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 990          | 1,125         | 990           | 990                                                          | 990                                               | 990                                              | 990                                                         | 990                                                                                        | 215           | 990                                              |               | 990                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 70            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  | 70            |                                                           | 70                                                                   | 70                                                        | 70                                                       | 70                                                                  |
| 33 | Washington           | 30           | 50            | 30            | 30                                                           | 30                                                | 30                                               | 30                                                          | 30                                                                                         | 25            | 30                                               |               | 30                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 55           | 55            | 55            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                            |               | 55                                               |               | 55                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 25           | 25            | 60            | 60                                                           | 60                                                | 25                                               | 25                                                          |                                                                                            |               | 25                                               | 45            | 25                                                        | 45                                                                   | 45                                                        |                                                          |                                                                     |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 55                                                       | 55                                                                  |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk              | 45           | 45            | 45            | 45                                                           | 45                                                | 95                                               | 95                                                          |                                                                                            |               |                                                  |               | 45                                                        | 45                                                                   | 45                                                        | 95                                                       | 95                                                                  |

End-of-Century Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 65           | 65            | 65            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 4  | Howard               | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore            | 125          | 125           | 125           | 290                                                          | 290                                               | 290                                              | 290                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       |              |               |               | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 215          | 215           | 215           | 445                                                          | 445                                               | 445                                              | 445                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 1,185        | 1,185         | 2,110         | 1,890                                                        | 1,890                                             | 1,890                                            | 1,890                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 65           | 65            | 485           | 435                                                          | 435                                               | 435                                              | 435                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 220          | 220           | 970           | 690                                                          | 690                                               | 690                                              | 690                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 315          | 315           | 315           | 335                                                          | 335                                               | 335                                              | 335                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 40           | 40            | 40            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 40           | 40            | 45            | 45                                                           | 45                                                | 45                                               | 45                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 445          | 230           | 245           | 240                                                          | 240                                               | 240                                              | 240                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 1,175        | 1,195         | 1,240         | 1,680                                                        | 1,680                                             | 1,680                                            | 1,680                                                       |                                                                                            |               |                                                  |               | 35                                                        | 1                                                                    | 1                                                         | 1                                                        | 1                                                                   |
| 18 | New York             | 155          | 190           | 195           | 225                                                          | 215                                               | 215                                              | 225                                                         |                                                                                            |               |                                                  |               | 155                                                       | 175                                                                  | 155                                                       | 155                                                      | 175                                                                 |
| 19 | Queens               | 100          | 100           | 165           | 165                                                          | 210                                               | 210                                              | 165                                                         |                                                                                            |               |                                                  |               | 100                                                       | 140                                                                  | 185                                                       | 185                                                      | 140                                                                 |
| 20 | Kings                | 10           | 10            | 50            | 50                                                           | 105                                               | 105                                              | 50                                                          |                                                                                            |               |                                                  |               | 10                                                        | 50                                                                   | 105                                                       | 105                                                      | 50                                                                  |
| 21 | Bronx                | 190          | 190           | 190           | 195                                                          | 190                                               | 190                                              | 195                                                         |                                                                                            |               |                                                  |               | 190                                                       | 190                                                                  |                                                           |                                                          | 190                                                                 |
| 22 | Westchester          | 20           | 20            | 30            | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                            |               |                                                  |               | 20                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 60                                                | 60                                               |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 60                                                        | 60                                                       |                                                                     |
| 26 | Fairfield            | 680          | 730           | 785           | 730                                                          | 730                                               | 730                                              | 730                                                         |                                                                                            |               |                                                  |               | 680                                                       | 110                                                                  | 110                                                       | 110                                                      | 110                                                                 |
| 27 | New Haven            | 1,455        | 1,455         | 1,535         | 1,455                                                        | 1,620                                             | 1,620                                            | 1,455                                                       |                                                                                            |               | 1,145                                            | 120           | 1,455                                                     |                                                                      | 425                                                       | 425                                                      |                                                                     |
| 28 | Middlesex            | 685          | 725           | 685           | 685                                                          | 685                                               | 685                                              | 685                                                         | 150                                                                                        | 185           | 685                                              |               | 685                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 1,975        | 2,225         | 1,975         | 1,975                                                        | 1,975                                             | 1,975                                            | 1,975                                                       | 1,975                                                                                      | 340           | 1,975                                            |               | 1,975                                                     |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 75            | 75                                                           | 75                                                | 75                                               | 75                                                          |                                                                                            |               |                                                  | 75            |                                                           | 75                                                                   | 75                                                        | 75                                                       | 75                                                                  |
| 33 | Washington           | 45           | 70            | 45            | 45                                                           | 45                                                | 45                                               | 45                                                          | 45                                                                                         | 35            | 45                                               |               | 45                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 100          | 100           | 100           | 100                                                          | 100                                               | 100                                              | 100                                                         |                                                                                            |               | 100                                              |               | 100                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 35           | 35            | 80            | 80                                                           | 80                                                | 35                                               | 35                                                          |                                                                                            |               | 35                                               | 65            | 35                                                        | 65                                                                   | 65                                                        |                                                          |                                                                     |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 70                                                       | 70                                                                  |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 40 | Norfolk              |              |               |               |                                                              |                                                   | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 5                                                        | 5                                                                   |
| 41 | Suffolk              | 365          | 365           | 365           | 380                                                          | 380                                               | 670                                              | 670                                                         |                                                                                            |               |                                                  |               | 365                                                       | 365                                                                  | 365                                                       | 510                                                      | 510                                                                 |

Current Climate Conditions (Storm Surge Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alt 3.2<br>(via Long Island<br>and Providence) | Alt 3.3<br>(via Long Island<br>and Worcester) | Alt 3.4<br>(via Central<br>Connecticut and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT, to<br>Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                   |                                                        |                                                       |                                                                  |
|----|----------------------|--------------|---------------|---------------|-----------------------------------------------------------|------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|
|    |                      |              |               |               |                                                           |                                                |                                               |                                                          | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alternative 3.2<br>(via Long Island<br>and Providence) | Alternative 3.3<br>(via Long Island<br>and Worcester) | Alternative 3.4<br>(via Central<br>Connecticut and<br>Worcester) |
| 1  | District of Columbia | 110          | 110           | 110           | 115                                                       | 115                                            | 115                                           | 115                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 2  | Prince George's      | 1            | 1             | 1             | 1                                                         | 1                                              | 1                                             | 1                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 3  | Anne Arundel         | 55           | 55            | 55            | 60                                                        | 60                                             | 60                                            | 60                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 4  | Howard               | 5            | 5             | 5             | 10                                                        | 10                                             | 10                                            | 10                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 5  | Baltimore            | 240          | 240           | 240           | 430                                                       | 430                                            | 430                                           | 430                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 6  | Baltimore City       |              |               |               | 80                                                        | 80                                             | 80                                            | 80                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 7  | Harford              | 330          | 330           | 335           | 720                                                       | 720                                            | 720                                           | 720                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                        | 25                                             | 25                                            | 25                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 9  | New Castle           | 1,445        | 1,445         | 2,120         | 2,145                                                     | 2,145                                          | 2,145                                         | 2,145                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 10 | Delaware             | 165          | 165           | 450           | 460                                                       | 460                                            | 460                                           | 460                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 11 | Philadelphia         | 420          | 420           | 1,360         | 1,000                                                     | 1,000                                          | 1,000                                         | 1,000                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 12 | Bucks                | 405          | 405           | 405           | 425                                                       | 425                                            | 425                                           | 425                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 13 | Mercer               | 25           | 25            | 25            | 25                                                        | 25                                             | 25                                            | 25                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 14 | Middlesex            | 60           | 60            | 60            | 60                                                        | 60                                             | 60                                            | 60                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 15 | Union                | 80           | 80            | 85            | 85                                                        | 85                                             | 85                                            | 85                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 16 | Essex                | 320          | 320           | 330           | 330                                                       | 330                                            | 330                                           | 330                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 17 | Hudson               | 1,180        | 1,180         | 1,220         | 1,645                                                     | 1,645                                          | 1,645                                         | 1,645                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 18 | New York             | 150          | 165           | 170           | 220                                                       | 175                                            | 175                                           | 220                                                      |                                                                                            |               |                                                  |               | 150                                                       | 180                                                               | 110                                                    | 110                                                   | 180                                                              |
| 19 | Queens               | 145          | 145           | 230           | 230                                                       | 290                                            | 290                                           | 230                                                      |                                                                                            |               |                                                  |               | 145                                                       | 185                                                               | 240                                                    | 240                                                   | 185                                                              |
| 20 | Kings                | 10           | 10            | 60            | 60                                                        | 145                                            | 145                                           | 60                                                       |                                                                                            |               |                                                  |               | 10                                                        | 60                                                                | 145                                                    | 145                                                   | 60                                                               |
| 21 | Bronx                | 305          | 305           | 305           | 320                                                       | 305                                            | 305                                           | 320                                                      |                                                                                            |               |                                                  |               | 305                                                       | 315                                                               |                                                        |                                                       | 315                                                              |
| 22 | Westchester          | 40           | 40            | 55            | 40                                                        | 40                                             | 40                                            | 40                                                       |                                                                                            |               |                                                  |               | 40                                                        |                                                                   |                                                        |                                                       |                                                                  |
| 24 | Suffolk              |              |               |               |                                                           | 65                                             | 65                                            |                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                   | 65                                                     | 65                                                    |                                                                  |
| 26 | Fairfield            | 840          | 895           | 970           | 895                                                       | 895                                            | 895                                           | 895                                                      |                                                                                            |               |                                                  |               | 840                                                       | 105                                                               | 105                                                    | 105                                                   | 105                                                              |
| 27 | New Haven            | 1,650        | 1,650         | 1,780         | 1,650                                                     | 1,865                                          | 1,865                                         | 1,650                                                    |                                                                                            |               | 1,300                                            | 170           | 1,650                                                     |                                                                   | 510                                                    | 510                                                   |                                                                  |
| 28 | Middlesex            | 750          | 790           | 750           | 750                                                       | 750                                            | 750                                           | 750                                                      | 150                                                                                        | 185           | 750                                              |               | 750                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 29 | New London           | 2,355        | 2,555         | 2,355         | 2,355                                                     | 2,355                                          | 2,355                                         | 2,355                                                    | 2,355                                                                                      | 295           | 2,355                                            |               | 2,355                                                     |                                                                   |                                                        |                                                       |                                                                  |
| 30 | Hartford             |              |               | 90            | 90                                                        | 90                                             | 90                                            | 90                                                       |                                                                                            |               |                                                  | 90            |                                                           | 90                                                                | 90                                                     | 90                                                    | 90                                                               |
| 33 | Washington           | 165          | 305           | 165           | 165                                                       | 165                                            | 165                                           | 165                                                      | 165                                                                                        | 200           | 165                                              |               | 165                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 34 | Kent                 | 170          | 170           | 170           | 170                                                       | 170                                            | 170                                           | 170                                                      |                                                                                            |               | 170                                              |               | 170                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 35 | Providence           | 90           | 90            | 155           | 155                                                       | 155                                            | 90                                            | 90                                                       |                                                                                            |               | 90                                               | 100           | 90                                                        | 100                                                               | 100                                                    |                                                       |                                                                  |
| 38 | Middlesex            |              |               |               |                                                           |                                                | 20                                            | 20                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        | 20                                                    | 20                                                               |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                         | 1                                              | 1                                             | 1                                                        |                                                                                            |               | 1                                                |               | 1                                                         |                                                                   |                                                        |                                                       |                                                                  |
| 41 | Suffolk              | 65           | 65            | 65            | 70                                                        | 70                                             | 120                                           | 120                                                      |                                                                                            |               |                                                  |               | 65                                                        | 70                                                                | 70                                                     | 100                                                   | 100                                                              |

Mid-Century Climate Conditions (Storm Surge Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alt 3.2<br>(via Long Island<br>and Providence) | Alt 3.3<br>(via Long Island<br>and Worcester) | Alt 3.4<br>(via Central<br>Connecticut and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT, to<br>Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                   |                                                        |                                                       |                                                                  |
|----|----------------------|--------------|---------------|---------------|-----------------------------------------------------------|------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|
|    |                      |              |               |               |                                                           |                                                |                                               |                                                          | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alternative 3.2<br>(via Long Island<br>and Providence) | Alternative 3.3<br>(via Long Island<br>and Worcester) | Alternative 3.4<br>(via Central<br>Connecticut and<br>Worcester) |
| 1  | District of Columbia | 140          | 140           | 140           | 145                                                       | 145                                            | 145                                           | 145                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 2  | Prince George's      | 1            | 1             | 1             | 1                                                         | 1                                              | 1                                             | 1                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 3  | Anne Arundel         | 60           | 60            | 60            | 60                                                        | 60                                             | 60                                            | 60                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 4  | Howard               | 5            | 5             | 5             | 10                                                        | 10                                             | 10                                            | 10                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 5  | Baltimore            | 715          | 715           | 715           | 1,085                                                     | 1,085                                          | 1,085                                         | 1,085                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 6  | Baltimore City       | 4            | 4             | 4             | 125                                                       | 125                                            | 125                                           | 125                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 7  | Harford              | 585          | 585           | 590           | 1,295                                                     | 1,295                                          | 1,295                                         | 1,295                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                        | 25                                             | 25                                            | 25                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 9  | New Castle           | 2,320        | 2,320         | 3,265         | 3,195                                                     | 3,195                                          | 3,195                                         | 3,195                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 10 | Delaware             | 290          | 290           | 920           | 965                                                       | 965                                            | 965                                           | 965                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 11 | Philadelphia         | 655          | 655           | 1,725         | 1,480                                                     | 1,480                                          | 1,480                                         | 1,480                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 12 | Bucks                | 770          | 770           | 770           | 800                                                       | 800                                            | 800                                           | 800                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 13 | Mercer               | 40           | 40            | 40            | 40                                                        | 40                                             | 40                                            | 40                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 14 | Middlesex            | 95           | 95            | 100           | 100                                                       | 100                                            | 100                                           | 100                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 15 | Union                | 225          | 225           | 235           | 235                                                       | 235                                            | 235                                           | 235                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 16 | Essex                | 485          | 485           | 505           | 505                                                       | 505                                            | 505                                           | 505                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 17 | Hudson               | 1,580        | 1,580         | 1,645         | 2,155                                                     | 2,155                                          | 2,155                                         | 2,155                                                    |                                                                                            |               |                                                  |               | 5                                                         |                                                                   |                                                        |                                                       |                                                                  |
| 18 | New York             | 285          | 310           | 325           | 455                                                       | 340                                            | 340                                           | 455                                                      |                                                                                            |               |                                                  |               | 285                                                       | 375                                                               | 195                                                    | 195                                                   | 375                                                              |
| 19 | Queens               | 250          | 250           | 360           | 360                                                       | 485                                            | 485                                           | 360                                                      |                                                                                            |               |                                                  |               | 250                                                       | 245                                                               | 365                                                    | 365                                                   | 245                                                              |
| 20 | Kings                | 10           | 10            | 80            | 80                                                        | 235                                            | 235                                           | 80                                                       |                                                                                            |               |                                                  |               | 10                                                        | 80                                                                | 235                                                    | 235                                                   | 80                                                               |
| 21 | Bronx                | 625          | 625           | 630           | 655                                                       | 625                                            | 625                                           | 655                                                      |                                                                                            |               |                                                  |               | 625                                                       | 645                                                               |                                                        |                                                       | 645                                                              |
| 22 | Westchester          | 65           | 65            | 110           | 65                                                        | 65                                             | 65                                            | 65                                                       |                                                                                            |               |                                                  |               | 65                                                        |                                                                   |                                                        |                                                       |                                                                  |
| 24 | Suffolk              |              |               |               |                                                           | 95                                             | 95                                            | 95                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   | 95                                                     | 95                                                    |                                                                  |
| 26 | Fairfield            | 1,985        | 2,125         | 2,310         | 2,125                                                     | 2,125                                          | 2,125                                         | 2,125                                                    |                                                                                            |               |                                                  |               | 1,985                                                     | 340                                                               | 340                                                    | 340                                                   | 340                                                              |
| 27 | New Haven            | 2,650        | 2,650         | 2,880         | 2,650                                                     | 3,060                                          | 3,060                                         | 2,650                                                    |                                                                                            |               | 1,850                                            | 330           | 2,650                                                     |                                                                   | 1,080                                                  | 1,080                                                 |                                                                  |
| 28 | Middlesex            | 1,460        | 1,510         | 1,460         | 1,460                                                     | 1,460                                          | 1,460                                         | 1,460                                                    | 240                                                                                        | 280           | 1,460                                            |               | 1,460                                                     |                                                                   |                                                        |                                                       |                                                                  |
| 29 | New London           | 3,460        | 3,835         | 3,460         | 3,460                                                     | 3,460                                          | 3,460                                         | 3,460                                                    | 3,460                                                                                      | 500           | 3,460                                            |               | 3,460                                                     |                                                                   |                                                        |                                                       |                                                                  |
| 30 | Hartford             |              |               | 145           | 145                                                       | 145                                            | 145                                           | 145                                                      |                                                                                            |               |                                                  | 145           |                                                           | 145                                                               | 145                                                    | 145                                                   | 145                                                              |
| 33 | Washington           | 205          | 385           | 205           | 205                                                       | 205                                            | 205                                           | 205                                                      | 205                                                                                        | 255           | 205                                              |               | 205                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 34 | Kent                 | 345          | 345           | 345           | 345                                                       | 345                                            | 345                                           | 345                                                      |                                                                                            |               | 345                                              |               | 345                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 35 | Providence           | 250          | 250           | 395           | 395                                                       | 395                                            | 250                                           | 250                                                      |                                                                                            |               | 250                                              | 275           | 250                                                       | 275                                                               | 275                                                    |                                                       |                                                                  |
| 38 | Middlesex            |              |               |               |                                                           |                                                | 40                                            | 40                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        | 40                                                    | 40                                                               |
| 39 | Bristol              | 5            | 5             | 5             | 5                                                         | 5                                              | 5                                             | 5                                                        |                                                                                            |               | 5                                                |               | 5                                                         |                                                                   |                                                        |                                                       |                                                                  |
| 40 | Norfolk              |              |               |               |                                                           |                                                | 1                                             | 1                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        | 1                                                     | 1                                                                |
| 41 | Suffolk              | 195          | 195           | 195           | 205                                                       | 205                                            | 420                                           | 420                                                      |                                                                                            |               |                                                  |               | 195                                                       | 200                                                               | 200                                                    | 345                                                   | 345                                                              |

End-of-Century Climate Conditions (Storm Surge Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alt 3.2<br>(via Long Island<br>and Providence) | Alt 3.3<br>(via Long Island<br>and Worcester) | Alt 3.4<br>(via Central<br>Connecticut and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT, to<br>Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                   |                                                        |                                                       |                                                                  |
|----|----------------------|--------------|---------------|---------------|-----------------------------------------------------------|------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|
|    |                      |              |               |               |                                                           |                                                |                                               |                                                          | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut and<br>Providence) | Alternative 3.2<br>(via Long Island<br>and Providence) | Alternative 3.3<br>(via Long Island<br>and Worcester) | Alternative 3.4<br>(via Central<br>Connecticut and<br>Worcester) |
| 1  | District of Columbia | 140          | 140           | 140           | 145                                                       | 145                                            | 145                                           | 145                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 3  | Anne Arundel         | 60           | 60            | 60            | 60                                                        | 60                                             | 60                                            | 60                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 4  | Howard               | 5            | 5             | 5             | 10                                                        | 10                                             | 10                                            | 10                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 5  | Baltimore            | 740          | 740           | 740           | 1,135                                                     | 1,135                                          | 1,135                                         | 1,135                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 6  | Baltimore City       | 4            | 4             | 4             | 140                                                       | 140                                            | 140                                           | 140                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 7  | Harford              | 595          | 595           | 600           | 1,320                                                     | 1,320                                          | 1,320                                         | 1,320                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 8  | Cecil                | 25           | 25            | 25            | 25                                                        | 25                                             | 25                                            | 25                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 9  | New Castle           | 2,370        | 2,370         | 3,315         | 3,245                                                     | 3,245                                          | 3,245                                         | 3,245                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 10 | Delaware             | 330          | 330           | 965           | 1,020                                                     | 1,020                                          | 1,020                                         | 1,020                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 11 | Philadelphia         | 715          | 715           | 1,815         | 1,550                                                     | 1,550                                          | 1,550                                         | 1,550                                                    |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 12 | Bucks                | 785          | 785           | 780           | 815                                                       | 815                                            | 815                                           | 815                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 13 | Mercer               | 40           | 40            | 40            | 45                                                        | 45                                             | 45                                            | 45                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 14 | Middlesex            | 100          | 100           | 105           | 105                                                       | 105                                            | 105                                           | 105                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 15 | Union                | 235          | 235           | 245           | 245                                                       | 245                                            | 245                                           | 245                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 16 | Essex                | 485          | 485           | 505           | 505                                                       | 505                                            | 505                                           | 505                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        |                                                       |                                                                  |
| 17 | Hudson               | 1,595        | 1,595         | 1,660         | 2,170                                                     | 2,170                                          | 2,170                                         | 2,170                                                    |                                                                                            |               |                                                  |               | 5                                                         |                                                                   |                                                        |                                                       |                                                                  |
| 18 | New York             | 285          | 315           | 330           | 455                                                       | 340                                            | 340                                           | 455                                                      |                                                                                            |               |                                                  |               | 285                                                       | 375                                                               | 195                                                    | 195                                                   | 375                                                              |
| 19 | Queens               | 265          | 265           | 375           | 375                                                       | 510                                            | 510                                           | 375                                                      |                                                                                            |               |                                                  |               | 265                                                       | 250                                                               | 380                                                    | 380                                                   | 250                                                              |
| 20 | Kings                | 10           | 10            | 80            | 80                                                        | 245                                            | 245                                           | 80                                                       |                                                                                            |               |                                                  |               | 10                                                        | 80                                                                | 245                                                    | 245                                                   | 80                                                               |
| 21 | Bronx                | 645          | 645           | 650           | 670                                                       | 645                                            | 645                                           | 670                                                      |                                                                                            |               |                                                  |               | 645                                                       | 660                                                               |                                                        |                                                       | 660                                                              |
| 22 | Westchester          | 75           | 75            | 125           | 75                                                        | 75                                             | 75                                            | 75                                                       |                                                                                            |               |                                                  |               | 75                                                        |                                                                   |                                                        |                                                       |                                                                  |
| 24 | Suffolk              |              |               |               |                                                           | 100                                            | 100                                           |                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                   | 100                                                    | 100                                                   |                                                                  |
| 26 | Fairfield            | 2,155        | 2,295         | 2,500         | 2,295                                                     | 2,295                                          | 2,295                                         | 2,295                                                    |                                                                                            |               |                                                  |               | 2,155                                                     | 365                                                               | 365                                                    | 365                                                   | 365                                                              |
| 27 | New Haven            | 2,780        | 2,780         | 3,020         | 2,780                                                     | 3,200                                          | 3,200                                         | 2,780                                                    |                                                                                            |               | 1,945                                            | 345           | 2,780                                                     |                                                                   | 1,105                                                  | 1,105                                                 |                                                                  |
| 28 | Middlesex            | 1,500        | 1,555         | 1,500         | 1,500                                                     | 1,500                                          | 1,500                                         | 1,500                                                    | 245                                                                                        | 290           | 1,500                                            |               | 1,500                                                     |                                                                   |                                                        |                                                       |                                                                  |
| 29 | New London           | 3,710        | 4,105         | 3,710         | 3,710                                                     | 3,710                                          | 3,710                                         | 3,710                                                    | 3,710                                                                                      | 525           | 3,710                                            |               | 3,710                                                     |                                                                   |                                                        |                                                       |                                                                  |
| 30 | Hartford             |              |               | 145           | 145                                                       | 145                                            | 145                                           | 145                                                      |                                                                                            |               |                                                  | 145           |                                                           | 145                                                               | 145                                                    | 145                                                   | 145                                                              |
| 33 | Washington           | 230          | 420           | 230           | 230                                                       | 230                                            | 230                                           | 230                                                      | 230                                                                                        | 285           | 230                                              |               | 230                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 34 | Kent                 | 370          | 370           | 370           | 370                                                       | 370                                            | 370                                           | 370                                                      |                                                                                            |               | 370                                              |               | 370                                                       |                                                                   |                                                        |                                                       |                                                                  |
| 35 | Providence           | 275          | 275           | 435           | 435                                                       | 435                                            | 275                                           | 275                                                      |                                                                                            |               | 275                                              | 305           | 275                                                       | 305                                                               | 305                                                    |                                                       |                                                                  |
| 38 | Middlesex            |              |               |               |                                                           |                                                | 45                                            | 45                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        | 45                                                    | 45                                                               |
| 39 | Bristol              | 5            | 5             | 5             | 5                                                         | 5                                              | 5                                             | 5                                                        |                                                                                            |               | 5                                                |               | 5                                                         |                                                                   |                                                        |                                                       |                                                                  |
| 40 | Norfolk              |              |               |               |                                                           |                                                | 1                                             | 1                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                   |                                                        | 1                                                     | 1                                                                |
| 41 | Suffolk              | 235          | 235           | 235           | 245                                                       | 245                                            | 485                                           | 485                                                      |                                                                                            |               |                                                  |               | 235                                                       | 245                                                               | 245                                                    | 370                                                   | 370                                                              |

Current Climate Conditions (Riverine Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 120          | 120           | 120           | 125                                                          | 125                                               | 125                                              | 125                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 2  | Prince George's      | 545          | 545           | 545           | 560                                                          | 560                                               | 560                                              | 560                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 745          | 745           | 745           | 775                                                          | 775                                               | 775                                              | 775                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 4  | Howard               | 5            | 5             | 5             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore County     | 375          | 375           | 375           | 695                                                          | 695                                               | 695                                              | 695                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       | 85           | 90            | 90            | 205                                                          | 205                                               | 205                                              | 205                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 950          | 950           | 945           | 1500                                                         | 1500                                              | 1500                                             | 1500                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 605          | 605           | 860           | 860                                                          | 860                                               | 860                                              | 860                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 1645         | 1645          | 2340          | 2370                                                         | 2370                                              | 2370                                             | 2370                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 290          | 290           | 485           | 590                                                          | 590                                               | 590                                              | 590                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 480          | 480           | 1410          | 1055                                                         | 1055                                              | 1055                                             | 1055                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 535          | 535           | 535           | 555                                                          | 555                                               | 555                                              | 555                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 440          | 440           | 440           | 460                                                          | 460                                               | 460                                              | 460                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 995          | 995           | 1035          | 1065                                                         | 1065                                              | 1065                                             | 1065                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 160          | 160           | 160           | 160                                                          | 160                                               | 160                                              | 160                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 365          | 365           | 375           | 380                                                          | 380                                               | 380                                              | 380                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 1190         | 1190          | 1230          | 1655                                                         | 1655                                              | 1655                                             | 1655                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 265          | 280           | 300           | 490                                                          | 305                                               | 305                                              | 490                                                         |                                                                                            |               |                                                  |               | 265                                                       | 400                                                                  | 170                                                       | 170                                                      | 400                                                                 |
| 19 | Queens               | 160          | 160           | 245           | 245                                                          | 305                                               | 305                                              | 245                                                         |                                                                                            |               |                                                  |               | 160                                                       | 195                                                                  | 250                                                       | 250                                                      | 195                                                                 |
| 20 | Kings                | 10           | 10            | 65            | 65                                                           | 145                                               | 145                                              | 65                                                          |                                                                                            |               |                                                  |               | 10                                                        | 65                                                                   | 145                                                       | 145                                                      | 65                                                                  |
| 21 | Bronx                | 495          | 495           | 500           | 520                                                          | 495                                               | 495                                              | 520                                                         |                                                                                            |               |                                                  |               | 495                                                       | 510                                                                  |                                                           |                                                          | 510                                                                 |
| 22 | Westchester          | 230          | 230           | 250           | 870                                                          | 230                                               | 230                                              | 870                                                         |                                                                                            |               |                                                  |               | 230                                                       | 690                                                                  |                                                           |                                                          | 690                                                                 |
| 23 | Nassau               |              |               |               |                                                              | 4                                                 | 4                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 4                                                         | 4                                                        |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 220                                               | 220                                              |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 220                                                       | 220                                                      |                                                                     |
| 25 | Putnam               |              |               |               | 85                                                           |                                                   |                                                  | 85                                                          |                                                                                            |               |                                                  |               |                                                           | 85                                                                   |                                                           |                                                          | 85                                                                  |
| 26 | Fairfield            | 1290         | 1395          | 1550          | 1790                                                         | 1395                                              | 1395                                             | 1790                                                        |                                                                                            |               |                                                  |               | 1290                                                      | 615                                                                  | 225                                                       | 225                                                      | 615                                                                 |
| 27 | New Haven            | 2015         | 2015          | 2580          | 2395                                                         | 2805                                              | 2805                                             | 2395                                                        |                                                                                            |               | 1560                                             | 605           | 2015                                                      | 380                                                                  | 1125                                                      | 1125                                                     | 380                                                                 |
| 28 | Middlesex            | 820          | 860           | 820           | 820                                                          | 820                                               | 820                                              | 820                                                         | 165                                                                                        | 185           | 820                                              |               | 820                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 3330         | 3755          | 3330          | 3330                                                         | 3330                                              | 3330                                             | 3330                                                        | 3330                                                                                       | 520           | 3330                                             |               | 3330                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 880           | 595                                                          | 540                                               | 525                                              | 585                                                         |                                                                                            |               |                                                  | 880           |                                                           | 595                                                                  | 540                                                       | 525                                                      | 585                                                                 |
| 31 | Tolland              |              |               | 235           | 235                                                          | 235                                               | 390                                              | 395                                                         |                                                                                            |               |                                                  | 235           |                                                           | 235                                                                  | 235                                                       | 390                                                      | 395                                                                 |
| 32 | Windham              |              |               | 1             | 1                                                            | 1                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  | 1             |                                                           | 1                                                                    | 1                                                         | 2                                                        | 2                                                                   |
| 33 | Washington           | 1480         | 1710          | 1480          | 1480                                                         | 1480                                              | 1480                                             | 1480                                                        | 610                                                                                        | 450           | 1480                                             |               | 1480                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 490          | 490           | 490           | 490                                                          | 490                                               | 490                                              | 490                                                         |                                                                                            |               | 490                                              |               | 490                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 215          | 215           | 560           | 555                                                          | 555                                               | 215                                              | 215                                                         |                                                                                            |               | 215                                              | 380           | 215                                                       | 375                                                                  | 375                                                       |                                                          |                                                                     |
| 37 | Worcester            |              |               |               |                                                              |                                                   | 980                                              | 980                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 980                                                      | 980                                                                 |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 350                                              | 350                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 350                                                      | 350                                                                 |
| 39 | Bristol              | 465          | 465           | 500           | 515                                                          | 515                                               | 465                                              | 465                                                         |                                                                                            |               | 95                                               | 50            | 465                                                       | 425                                                                  | 425                                                       |                                                          |                                                                     |
| 40 | Norfolk              | 395          | 395           | 385           | 400                                                          | 400                                               | 395                                              | 395                                                         |                                                                                            |               |                                                  |               | 395                                                       | 385                                                                  | 385                                                       |                                                          |                                                                     |
| 41 | Suffolk              | 85           | 85            | 85            | 90                                                           | 90                                                | 140                                              | 140                                                         |                                                                                            |               |                                                  |               | 85                                                        | 85                                                                   | 85                                                        | 100                                                      | 100                                                                 |

Mid-Century Climate Conditions (Riverine Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 160          | 160           | 160           | 170                                                          | 170                                               | 170                                              | 170                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 2  | Prince George's      | 720          | 720           | 720           | 740                                                          | 740                                               | 740                                              | 740                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 985          | 985           | 985           | 1020                                                         | 1020                                              | 1020                                             | 1020                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 4  | Howard               | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore County     | 495          | 495           | 495           | 920                                                          | 920                                               | 920                                              | 920                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       | 110          | 115           | 115           | 270                                                          | 270                                               | 270                                              | 270                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 1250         | 1250          | 1250          | 1975                                                         | 1975                                              | 1975                                             | 1975                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 800          | 800           | 1135          | 1140                                                         | 1140                                              | 1140                                             | 1140                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 2155         | 2155          | 3065          | 3100                                                         | 3100                                              | 3100                                             | 3100                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 435          | 435           | 730           | 885                                                          | 885                                               | 885                                              | 885                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 715          | 715           | 2115          | 1585                                                         | 1585                                              | 1585                                             | 1585                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 800          | 800           | 800           | 830                                                          | 830                                               | 830                                              | 830                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 640          | 640           | 640           | 665                                                          | 665                                               | 665                                              | 665                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 1440         | 1440          | 1505          | 1540                                                         | 1540                                              | 1540                                             | 1540                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 230          | 230           | 235           | 235                                                          | 235                                               | 235                                              | 235                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 530          | 530           | 545           | 550                                                          | 550                                               | 550                                              | 550                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 1725         | 1725          | 1785          | 2400                                                         | 2400                                              | 2400                                             | 2400                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 385          | 410           | 435           | 710                                                          | 445                                               | 445                                              | 710                                                         |                                                                                            |               |                                                  |               | 385                                                       | 580                                                                  | 250                                                       | 250                                                      | 580                                                                 |
| 19 | Queens               | 235          | 235           | 360           | 360                                                          | 445                                               | 445                                              | 360                                                         |                                                                                            |               |                                                  |               | 235                                                       | 280                                                                  | 365                                                       | 365                                                      | 280                                                                 |
| 20 | Kings                | 15           | 15            | 90            | 90                                                           | 215                                               | 215                                              | 90                                                          |                                                                                            |               |                                                  |               | 15                                                        | 90                                                                   | 215                                                       | 215                                                      | 90                                                                  |
| 21 | Bronx                | 720          | 720           | 730           | 755                                                          | 720                                               | 720                                              | 755                                                         |                                                                                            |               |                                                  |               | 720                                                       | 745                                                                  |                                                           |                                                          | 745                                                                 |
| 22 | Westchester          | 335          | 335           | 365           | 1260                                                         | 335                                               | 335                                              | 1260                                                        |                                                                                            |               |                                                  |               | 335                                                       | 1000                                                                 |                                                           |                                                          | 1000                                                                |
| 23 | Nassau               |              |               |               |                                                              | 5                                                 | 5                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 5                                                         | 5                                                        |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 320                                               | 320                                              |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 320                                                       | 320                                                      |                                                                     |
| 25 | Putnam               |              |               |               | 125                                                          |                                                   |                                                  | 125                                                         |                                                                                            |               |                                                  |               |                                                           | 125                                                                  |                                                           |                                                          | 125                                                                 |
| 26 | Fairfield            | 1765         | 1915          | 2120          | 2450                                                         | 1915                                              | 1915                                             | 2450                                                        |                                                                                            |               |                                                  |               | 1765                                                      | 840                                                                  | 305                                                       | 305                                                      | 840                                                                 |
| 27 | New Haven            | 2760         | 2760          | 3530          | 3280                                                         | 3845                                              | 3845                                             | 3280                                                        |                                                                                            |               | 2135                                             | 830           | 2760                                                      | 520                                                                  | 1545                                                      | 1545                                                     | 520                                                                 |
| 28 | Middlesex            | 1125         | 1175          | 1125          | 1125                                                         | 1125                                              | 1125                                             | 1125                                                        | 230                                                                                        | 255           | 1125                                             |               | 1125                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 4565         | 5145          | 4565          | 4565                                                         | 4565                                              | 4565                                             | 4565                                                        | 4565                                                                                       | 710           | 4565                                             |               | 4565                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 1210          | 815                                                          | 735                                               | 720                                              | 800                                                         |                                                                                            |               |                                                  | 1210          |                                                           | 815                                                                  | 735                                                       | 720                                                      | 800                                                                 |
| 31 | Tolland              |              |               | 325           | 325                                                          | 325                                               | 535                                              | 540                                                         |                                                                                            |               |                                                  | 325           |                                                           | 325                                                                  | 325                                                       | 535                                                      | 540                                                                 |
| 32 | Windham              |              |               | 1             | 1                                                            | 1                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  | 1             |                                                           | 1                                                                    | 1                                                         | 2                                                        | 2                                                                   |
| 33 | Washington           | 2040         | 2365          | 2040          | 2040                                                         | 2040                                              | 2040                                             | 2040                                                        | 840                                                                                        | 620           | 2040                                             |               | 2040                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 675          | 675           | 675           | 675                                                          | 675                                               | 675                                              | 675                                                         |                                                                                            |               | 675                                              |               | 675                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 300          | 300           | 770           | 770                                                          | 770                                               | 300                                              | 300                                                         |                                                                                            |               | 300                                              | 525           | 300                                                       | 520                                                                  | 520                                                       |                                                          |                                                                     |
| 37 | Worcester            |              |               |               |                                                              |                                                   | 1410                                             | 1410                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 1410                                                     | 1410                                                                |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 505                                              | 505                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 505                                                      | 505                                                                 |
| 39 | Bristol              | 670          | 670           | 720           | 740                                                          | 740                                               | 670                                              | 670                                                         |                                                                                            |               | 135                                              | 75            | 670                                                       | 610                                                                  | 610                                                       |                                                          |                                                                     |
| 40 | Norfolk              | 565          | 565           | 555           | 575                                                          | 575                                               | 565                                              | 565                                                         |                                                                                            |               |                                                  |               | 565                                                       | 555                                                                  | 555                                                       |                                                          |                                                                     |
| 41 | Suffolk              | 120          | 120           | 120           | 130                                                          | 130                                               | 200                                              | 200                                                         |                                                                                            |               |                                                  |               | 120                                                       | 120                                                                  | 120                                                       | 145                                                      | 145                                                                 |

End-of-Century Climate Conditions (Riverine Flooding): Number of Acres in the Affected Environment at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 190          | 190           | 190           | 200                                                          | 200                                               | 200                                              | 200                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 2  | Prince George's      | 830          | 830           | 830           | 850                                                          | 850                                               | 850                                              | 850                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 1130         | 1130          | 1130          | 1175                                                         | 1175                                              | 1175                                             | 1175                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 4  | Howard               | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore County     | 570          | 570           | 570           | 1055                                                         | 1055                                              | 1055                                             | 1055                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       | 125          | 135           | 135           | 310                                                          | 310                                               | 310                                              | 310                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 1440         | 1440          | 1440          | 2275                                                         | 2275                                              | 2275                                             | 2275                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 920          | 920           | 1305          | 1310                                                         | 1310                                              | 1310                                             | 1310                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 2480         | 2480          | 3530          | 3575                                                         | 3575                                              | 3575                                             | 3575                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 530          | 530           | 880           | 1065                                                         | 1065                                              | 1065                                             | 1065                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 865          | 865           | 2555          | 1915                                                         | 1915                                              | 1915                                             | 1915                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 970          | 970           | 965           | 1005                                                         | 1005                                              | 1005                                             | 1005                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 765          | 765           | 765           | 800                                                          | 800                                               | 800                                              | 800                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 1730         | 1730          | 1805          | 1850                                                         | 1850                                              | 1850                                             | 1850                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 275          | 275           | 280           | 280                                                          | 280                                               | 280                                              | 280                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 635          | 635           | 655           | 660                                                          | 660                                               | 660                                              | 660                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 2065         | 2065          | 2145          | 2880                                                         | 2880                                              | 2880                                             | 2880                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 455          | 485           | 520           | 845                                                          | 530                                               | 530                                              | 845                                                         |                                                                                            |               |                                                  |               | 455                                                       | 695                                                                  | 295                                                       | 295                                                      | 695                                                                 |
| 19 | Queens               | 280          | 280           | 425           | 430                                                          | 530                                               | 530                                              | 430                                                         |                                                                                            |               |                                                  |               | 280                                                       | 335                                                                  | 435                                                       | 435                                                      | 335                                                                 |
| 20 | Kings                | 20           | 20            | 110           | 110                                                          | 255                                               | 255                                              | 110                                                         |                                                                                            |               |                                                  |               | 20                                                        | 110                                                                  | 255                                                       | 255                                                      | 110                                                                 |
| 21 | Bronx                | 860          | 860           | 870           | 900                                                          | 860                                               | 860                                              | 900                                                         |                                                                                            |               |                                                  |               | 860                                                       | 885                                                                  |                                                           |                                                          | 885                                                                 |
| 22 | Westchester          | 400          | 400           | 435           | 1505                                                         | 400                                               | 400                                              | 1505                                                        |                                                                                            |               |                                                  |               | 400                                                       | 1195                                                                 |                                                           |                                                          | 1195                                                                |
| 23 | Nassau               |              |               |               |                                                              | 5                                                 | 5                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 5                                                         | 5                                                        |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 385                                               | 385                                              |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 385                                                       | 385                                                      |                                                                     |
| 25 | Putnam               |              |               |               | 150                                                          |                                                   |                                                  | 150                                                         |                                                                                            |               |                                                  |               |                                                           | 150                                                                  |                                                           |                                                          | 150                                                                 |
| 26 | Fairfield            | 2075         | 2250          | 2495          | 2880                                                         | 2250                                              | 2250                                             | 2880                                                        |                                                                                            |               |                                                  |               | 2075                                                      | 990                                                                  | 360                                                       | 360                                                      | 990                                                                 |
| 27 | New Haven            | 3245         | 3245          | 4150          | 3855                                                         | 4515                                              | 4515                                             | 3855                                                        |                                                                                            |               | 2510                                             | 975           | 3245                                                      | 610                                                                  | 1815                                                      | 1815                                                     | 610                                                                 |
| 28 | Middlesex            | 1320         | 1385          | 1320          | 1320                                                         | 1320                                              | 1320                                             | 1320                                                        | 270                                                                                        | 300           | 1320                                             |               | 1320                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 5365         | 6045          | 5365          | 5365                                                         | 5365                                              | 5365                                             | 5365                                                        | 5365                                                                                       | 835           | 5365                                             |               | 5365                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 1420          | 960                                                          | 865                                               | 850                                              | 940                                                         |                                                                                            |               |                                                  | 1420          |                                                           | 960                                                                  | 865                                                       | 850                                                      | 940                                                                 |
| 31 | Tolland              |              |               | 380           | 380                                                          | 380                                               | 630                                              | 635                                                         |                                                                                            |               |                                                  | 380           |                                                           | 380                                                                  | 380                                                       | 630                                                      | 635                                                                 |
| 32 | Windham              |              |               |               |                                                              |                                                   | 3                                                | 3                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 3                                                        | 3                                                                   |
| 33 | Washington           | 2380         | 2755          | 2380          | 2380                                                         | 2380                                              | 2380                                             | 2380                                                        | 980                                                                                        | 725           | 2380                                             |               | 2380                                                      |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 785          | 785           | 785           | 785                                                          | 785                                               | 785                                              | 785                                                         |                                                                                            |               | 785                                              |               | 785                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 350          | 350           | 900           | 895                                                          | 895                                               | 350                                              | 350                                                         |                                                                                            |               | 350                                              | 610           | 350                                                       | 605                                                                  | 605                                                       |                                                          |                                                                     |
| 37 | Worcester            |              |               |               |                                                              |                                                   | 1665                                             | 1665                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 1665                                                     | 1665                                                                |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 595                                              | 595                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 595                                                      | 595                                                                 |
| 39 | Bristol              | 790          | 790           | 850           | 870                                                          | 870                                               | 790                                              | 790                                                         |                                                                                            |               | 160                                              | 85            | 790                                                       | 720                                                                  | 720                                                       |                                                          |                                                                     |
| 40 | Norfolk              | 670          | 670           | 655           | 680                                                          | 680                                               | 670                                              | 670                                                         |                                                                                            |               |                                                  |               | 670                                                       | 655                                                                  | 655                                                       |                                                          |                                                                     |
| 41 | Suffolk              | 145          | 145           | 145           | 150                                                          | 150                                               | 235                                              | 235                                                         |                                                                                            |               |                                                  |               | 145                                                       | 145                                                                  | 145                                                       | 170                                                      | 170                                                                 |

Current Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 1            | 1             | 1             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore            | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       |              |               |               | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 10           | 10            | 10            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 4            | 4             | 10            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 1            | 1             | 20            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 2            | 2             | 25            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 3            | 3             | 3             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 1            | 1             | 1             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 2            | 2             | 4             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 15           | 20            | 25            | 60                                                           | 60                                                | 60                                               | 60                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 5            | 15            | 15            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               | 5                                                         | 20                                                                   | 20                                                        | 20                                                       | 20                                                                  |
| 19 | Queens               | 1            | 1             | 5             | 5                                                            | 10                                                | 10                                               | 5                                                           |                                                                                            |               |                                                  |               | 1                                                         | 5                                                                    | 5                                                         | 5                                                        | 5                                                                   |
| 20 | Kings                |              |               | 2             | 2                                                            | 4                                                 | 4                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           | 2                                                                    | 2                                                         | 2                                                        | 2                                                                   |
| 21 | Bronx                | 1            | 1             | 2             | 4                                                            | 1                                                 | 1                                                | 4                                                           |                                                                                            |               |                                                  |               | 1                                                         | 3                                                                    |                                                           |                                                          | 3                                                                   |
| 22 | Westchester          | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 4                                                 | 4                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 4                                                         | 4                                                        |                                                                     |
| 26 | Fairfield            | 5            | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven            | 5            | 5             | 10            | 5                                                            | 15                                                | 15                                               | 5                                                           |                                                                                            |               | 4                                                | 2             | 5                                                         |                                                                      | 5                                                         | 5                                                        |                                                                     |
| 28 | Middlesex            | 5            | 10            | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           | 3                                                                                          | 5             | 5                                                |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 25           | 40            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          | 25                                                                                         | 15            | 25                                               |               | 25                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  | 5             |                                                           | 5                                                                    | 5                                                         | 5                                                        | 5                                                                   |
| 33 | Washington           | 1            | 2             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                          | 2             | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 1            | 1             | 3             | 4                                                            | 4                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                | 2             | 1                                                         | 3                                                                    | 3                                                         |                                                          |                                                                     |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk              | 1            | 1             | 1             | 3                                                            | 3                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               | 1                                                         | 2                                                                    | 2                                                         | 1                                                        | 1                                                                   |

Mid-Century Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 1            | 1             | 1             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore            | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       |              |               |               | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 10           | 10            | 10            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 5            | 5             | 20            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 1            | 1             | 25            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 2            | 2             | 25            | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 4            | 4             | 4             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 1            | 1             | 1             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 2            | 2             | 4             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 15           | 25            | 25            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 5            | 15            | 15            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               | 5                                                         | 20                                                                   | 20                                                        | 20                                                       | 20                                                                  |
| 19 | Queens               | 1            | 1             | 5             | 5                                                            | 10                                                | 10                                               | 5                                                           |                                                                                            |               |                                                  |               | 1                                                         | 5                                                                    | 5                                                         | 5                                                        | 5                                                                   |
| 20 | Kings                |              |               | 2             | 2                                                            | 4                                                 | 4                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           | 2                                                                    | 2                                                         | 2                                                        | 2                                                                   |
| 21 | Bronx                | 1            | 1             | 2             | 5                                                            | 1                                                 | 1                                                | 5                                                           |                                                                                            |               |                                                  |               | 1                                                         | 4                                                                    |                                                           |                                                          | 4                                                                   |
| 22 | Westchester          | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk              |              |               |               |                                                              | 4                                                 | 4                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 4                                                         | 4                                                        |                                                                     |
| 26 | Fairfield            | 5            | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven            | 10           | 10            | 15            | 10                                                           | 20                                                | 20                                               | 10                                                          |                                                                                            |               | 5                                                | 3             | 10                                                        |                                                                      | 10                                                        | 10                                                       |                                                                     |
| 28 | Middlesex            | 10           | 15            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          | 3                                                                                          | 10            | 10                                               |               | 10                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 35           | 50            | 35            | 35                                                           | 35                                                | 35                                               | 35                                                          | 35                                                                                         | 15            | 35                                               |               | 35                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  | 5             |                                                           | 5                                                                    | 5                                                         | 5                                                        | 5                                                                   |
| 33 | Washington           | 1            | 3             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                          | 2             | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 2            | 2             | 2             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               | 2                                                |               | 2                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 1            | 1             | 4             | 5                                                            | 5                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                | 2             | 1                                                         | 3                                                                    | 3                                                         |                                                          |                                                                     |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk              | 1            | 1             | 1             | 3                                                            | 3                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               | 1                                                         | 2                                                                    | 2                                                         | 1                                                        | 1                                                                   |

End-of-Century Climate Conditions (Sea Level Rise Flooding): Number of Acres in the Representative Route at Risk

| #  | County            | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|-------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                   |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Colum | 2            | 2             | 2             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore         | 2            | 2             | 2             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City    |              |               |               | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford           | 10           | 10            | 10            | 45                                                           | 45                                                | 45                                               | 45                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil             | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle        | 50           | 50            | 110           | 190                                                          | 190                                               | 190                                              | 190                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware          | 1            | 1             | 55            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia      | 3            | 3             | 85            | 60                                                           | 60                                                | 60                                               | 60                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks             | 4            | 4             | 4             | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer            | 1            | 1             | 1             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex         | 2            | 2             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union             | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex             | 20           | 20            | 35            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson            | 50           | 70            | 75            | 215                                                          | 215                                               | 215                                              | 215                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York          | 10           | 20            | 20            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               | 10                                                        | 30                                                                   | 30                                                        | 30                                                       | 30                                                                  |
| 19 | Queens            | 10           | 10            | 25            | 25                                                           | 35                                                | 35                                               | 25                                                          |                                                                                            |               |                                                  |               | 10                                                        | 15                                                                   | 10                                                        | 10                                                       | 15                                                                  |
| 20 | Kings             |              |               | 4             | 4                                                            | 25                                                | 25                                               | 4                                                           |                                                                                            |               |                                                  |               |                                                           | 4                                                                    | 25                                                        | 25                                                       | 4                                                                   |
| 21 | Bronx             | 5            | 5             | 10            | 25                                                           | 5                                                 | 5                                                | 25                                                          |                                                                                            |               |                                                  |               | 5                                                         | 20                                                                   |                                                           |                                                          | 20                                                                  |
| 22 | Westchester       | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 24 | Suffolk           |              |               |               |                                                              | 5                                                 | 5                                                |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 5                                                         | 5                                                        |                                                                     |
| 26 | Fairfield         | 20           | 25            | 30            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               | 20                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven         | 70           | 70            | 80            | 70                                                           | 100                                               | 100                                              | 70                                                          |                                                                                            |               | 50                                               | 5             | 70                                                        |                                                                      | 30                                                        | 30                                                       |                                                                     |
| 28 | Middlesex         | 40           | 50            | 40            | 40                                                           | 40                                                | 40                                               | 40                                                          | 5                                                                                          | 10            | 40                                               |               | 40                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London        | 155          | 175           | 155           | 155                                                          | 155                                               | 155                                              | 155                                                         | 155                                                                                        | 20            | 155                                              |               | 155                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford          |              |               | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  | 5             |                                                           | 5                                                                    | 5                                                         | 5                                                        | 5                                                                   |
| 33 | Washington        | 1            | 3             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                          | 3             | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent              | 4            | 4             | 4             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                            |               | 4                                                |               | 4                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence        | 2            | 2             | 5             | 5                                                            | 5                                                 | 2                                                | 2                                                           |                                                                                            |               | 2                                                | 3             | 2                                                         | 4                                                                    | 4                                                         |                                                          |                                                                     |
| 39 | Bristol           | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 40 | Norfolk           |              |               |               |                                                              |                                                   | 3                                                | 3                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 3                                                        | 3                                                                   |
| 41 | Suffolk           | 25           | 25            | 25            | 75                                                           | 75                                                | 60                                               | 60                                                          |                                                                                            |               |                                                  |               | 25                                                        | 50                                                                   | 50                                                        | 35                                                       | 35                                                                  |

Current Climate Conditions (Storm Surge Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 5            | 5             | 5             | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 3  | Anne Arundel         | 10           | 10            | 10            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 5  | Baltimore            | 10           | 10            | 10            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 6  | Baltimore City       |              |               |               | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford              | 15           | 15            | 15            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 8  | Cecil                | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle           | 45           | 45            | 105           | 190                                                          | 190                                               | 190                                              | 190                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware             | 5            | 5             | 50            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia         | 25           | 25            | 120           | 110                                                          | 110                                               | 110                                              | 110                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks                | 20           | 20            | 20            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 13 | Mercer               | 1            | 1             | 1             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 14 | Middlesex            | 3            | 3             | 5             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 15 | Union                | 1            | 1             | 3             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 16 | Essex                | 25           | 25            | 45            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson               | 45           | 60            | 70            | 200                                                          | 200                                               | 200                                              | 200                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 18 | New York             | 10           | 20            | 20            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               | 10                                                        | 25                                                                      | 20                                                        | 20                                                       | 25                                                                     |
| 19 | Queens               | 15           | 15            | 30            | 30                                                           | 45                                                | 45                                               | 30                                                          |                                                                                               |               |                                                  |               | 15                                                        | 15                                                                      | 15                                                        | 15                                                       | 15                                                                     |
| 20 | Kings                |              |               | 4             | 4                                                            | 30                                                | 30                                               | 4                                                           |                                                                                               |               |                                                  |               |                                                           | 4                                                                       | 30                                                        | 30                                                       | 4                                                                      |
| 21 | Bronx                | 25           | 25            | 30            | 65                                                           | 25                                                | 25                                               | 65                                                          |                                                                                               |               |                                                  |               | 25                                                        | 40                                                                      |                                                           |                                                          | 40                                                                     |
| 22 | Westchester          | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 24 | Suffolk              |              |               |               |                                                              | 5                                                 | 5                                                |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         | 5                                                         | 5                                                        |                                                                        |
| 26 | Fairfield            | 45           | 50            | 60            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                               |               |                                                  |               | 45                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven            | 90           | 90            | 110           | 90                                                           | 135                                               | 135                                              | 90                                                          |                                                                                               |               | 70                                               | 15            | 90                                                        |                                                                         | 45                                                        | 45                                                       |                                                                        |
| 28 | Middlesex            | 45           | 55            | 45            | 45                                                           | 45                                                | 45                                               | 45                                                          | 10                                                                                            | 10            | 45                                               |               | 45                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London           | 215          | 240           | 215           | 215                                                          | 215                                               | 215                                              | 215                                                         | 215                                                                                           | 25            | 215                                              |               | 215                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 30 | Hartford             |              |               | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  | 5             |                                                           | 5                                                                       | 5                                                         | 5                                                        | 5                                                                      |
| 33 | Washington           | 2            | 15            | 2             | 2                                                            | 2                                                 | 2                                                | 2                                                           | 2                                                                                             | 10            | 2                                                |               | 2                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 34 | Kent                 | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                               |               | 15                                               |               | 15                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 35 | Providence           | 3            | 3             | 10            | 10                                                           | 10                                                | 3                                                | 3                                                           |                                                                                               |               | 3                                                | 5             | 3                                                         | 10                                                                      | 10                                                        |                                                          |                                                                        |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 41 | Suffolk              | 1            | 1             | 1             | 3                                                            | 3                                                 | 2                                                | 2                                                           |                                                                                               |               |                                                  |               | 1                                                         | 3                                                                       | 3                                                         | 1                                                        | 1                                                                      |

Mid-Century Climate Conditions (Storm Surge Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 10           | 10            | 10            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 3  | Anne Arundel         | 10           | 10            | 10            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 5  | Baltimore            | 60           | 60            | 60            | 140                                                          | 140                                               | 140                                              | 140                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 6  | Baltimore City       |              |               |               | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford              | 50           | 50            | 50            | 175                                                          | 175                                               | 175                                              | 175                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 8  | Cecil                | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle           | 200          | 200           | 305           | 550                                                          | 550                                               | 550                                              | 550                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware             | 10           | 10            | 85            | 120                                                          | 120                                               | 120                                              | 120                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia         | 45           | 45            | 150           | 170                                                          | 170                                               | 170                                              | 170                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks                | 70           | 70            | 70            | 205                                                          | 205                                               | 205                                              | 205                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 13 | Mercer               | 3            | 3             | 3             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 14 | Middlesex            | 5            | 5             | 10            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 15 | Union                | 10           | 10            | 20            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 16 | Essex                | 35           | 35            | 75            | 105                                                          | 105                                               | 105                                              | 105                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson               | 130          | 155           | 185           | 385                                                          | 385                                               | 385                                              | 385                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 18 | New York             | 20           | 30            | 35            | 60                                                           | 60                                                | 60                                               | 60                                                          |                                                                                               |               |                                                  |               | 20                                                        | 40                                                                      | 35                                                        | 35                                                       | 40                                                                     |
| 19 | Queens               | 20           | 20            | 40            | 40                                                           | 70                                                | 70                                               | 40                                                          |                                                                                               |               |                                                  |               | 20                                                        | 20                                                                      | 30                                                        | 30                                                       | 20                                                                     |
| 20 | Kings                |              |               | 4             | 4                                                            | 35                                                | 35                                               | 4                                                           |                                                                                               |               |                                                  |               |                                                           | 4                                                                       | 30                                                        | 30                                                       | 4                                                                      |
| 21 | Bronx                | 60           | 60            | 60            | 125                                                          | 60                                                | 60                                               | 125                                                         |                                                                                               |               |                                                  |               | 60                                                        | 60                                                                      |                                                           |                                                          | 60                                                                     |
| 22 | Westchester          | 3            | 3             | 4             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                               |               |                                                  |               | 3                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 24 | Suffolk              |              |               |               |                                                              | 10                                                | 10                                               |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         | 10                                                        | 10                                                       |                                                                        |
| 26 | Fairfield            | 150          | 170           | 195           | 170                                                          | 170                                               | 170                                              | 170                                                         |                                                                                               |               |                                                  |               | 150                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven            | 205          | 205           | 230           | 205                                                          | 300                                               | 300                                              | 205                                                         |                                                                                               |               | 140                                              | 25            | 205                                                       |                                                                         | 95                                                        | 95                                                       |                                                                        |
| 28 | Middlesex            | 120          | 140           | 120           | 120                                                          | 120                                               | 120                                              | 120                                                         | 15                                                                                            | 20            | 120                                              |               | 120                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London           | 335          | 375           | 335           | 335                                                          | 335                                               | 335                                              | 335                                                         | 335                                                                                           | 40            | 335                                              |               | 335                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 30 | Hartford             |              |               | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  | 10            |                                                           | 10                                                                      | 10                                                        | 10                                                       | 10                                                                     |
| 33 | Washington           | 5            | 20            | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           | 5                                                                                             | 15            | 5                                                |               | 5                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 34 | Kent                 | 55           | 55            | 55            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                               |               | 55                                               |               | 55                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 35 | Providence           | 15           | 15            | 40            | 40                                                           | 40                                                | 15                                               | 15                                                          |                                                                                               |               | 15                                               | 25            | 15                                                        | 25                                                                      | 25                                                        |                                                          |                                                                        |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 41 | Suffolk              | 10           | 10            | 10            | 30                                                           | 30                                                | 30                                               | 30                                                          |                                                                                               |               |                                                  |               | 10                                                        | 20                                                                      | 20                                                        | 20                                                       | 20                                                                     |

End-of-Century Climate Conditions (Storm Surge Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 10           | 10            | 10            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 3  | Anne Arundel         | 10           | 10            | 10            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 5  | Baltimore            | 60           | 60            | 60            | 145                                                          | 145                                               | 145                                              | 145                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 6  | Baltimore City       |              |               |               | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford              | 55           | 55            | 55            | 180                                                          | 180                                               | 180                                              | 180                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 8  | Cecil                | 2            | 2             | 2             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle           | 205          | 205           | 315           | 570                                                          | 570                                               | 570                                              | 570                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware             | 15           | 15            | 90            | 135                                                          | 135                                               | 135                                              | 135                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia         | 55           | 55            | 160           | 185                                                          | 185                                               | 185                                              | 185                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks                | 70           | 70            | 70            | 205                                                          | 205                                               | 205                                              | 205                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 13 | Mercer               | 3            | 3             | 3             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 14 | Middlesex            | 5            | 5             | 10            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 15 | Union                | 10           | 10            | 25            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 16 | Essex                | 35           | 35            | 75            | 105                                                          | 105                                               | 105                                              | 105                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson               | 130          | 155           | 185           | 385                                                          | 385                                               | 385                                              | 385                                                         |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 18 | New York             | 20           | 30            | 35            | 60                                                           | 60                                                | 60                                               | 60                                                          |                                                                                               |               |                                                  |               | 20                                                        | 40                                                                      | 35                                                        | 35                                                       | 40                                                                     |
| 19 | Queens               | 25           | 25            | 40            | 40                                                           | 75                                                | 75                                               | 40                                                          |                                                                                               |               |                                                  |               | 25                                                        | 20                                                                      | 35                                                        | 35                                                       | 20                                                                     |
| 20 | Kings                |              |               | 4             | 4                                                            | 35                                                | 35                                               | 4                                                           |                                                                                               |               |                                                  |               |                                                           | 4                                                                       | 30                                                        | 30                                                       | 4                                                                      |
| 21 | Bronx                | 60           | 60            | 65            | 125                                                          | 60                                                | 60                                               | 125                                                         |                                                                                               |               |                                                  |               | 60                                                        | 60                                                                      |                                                           |                                                          | 60                                                                     |
| 22 | Westchester          | 4            | 4             | 5             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                               |               |                                                  |               | 4                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 24 | Suffolk              |              |               |               |                                                              | 10                                                | 10                                               |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         | 10                                                        | 10                                                       |                                                                        |
| 26 | Fairfield            | 175          | 195           | 230           | 195                                                          | 195                                               | 195                                              | 195                                                         |                                                                                               |               |                                                  |               | 175                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven            | 220          | 220           | 250           | 220                                                          | 320                                               | 320                                              | 220                                                         |                                                                                               |               | 155                                              | 30            | 220                                                       |                                                                         | 100                                                       | 100                                                      |                                                                        |
| 28 | Middlesex            | 125          | 145           | 125           | 125                                                          | 125                                               | 125                                              | 125                                                         | 15                                                                                            | 20            | 125                                              |               | 125                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London           | 365          | 405           | 365           | 365                                                          | 365                                               | 365                                              | 365                                                         | 365                                                                                           | 40            | 365                                              |               | 365                                                       |                                                                         |                                                           |                                                          |                                                                        |
| 30 | Hartford             |              |               | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  | 10            |                                                           | 10                                                                      | 10                                                        | 10                                                       | 10                                                                     |
| 33 | Washington           | 10           | 25            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          | 10                                                                                            | 15            | 10                                               |               | 10                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 34 | Kent                 | 60           | 60            | 60            | 60                                                           | 60                                                | 60                                               | 60                                                          |                                                                                               |               | 60                                               |               | 60                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 35 | Providence           | 15           | 15            | 45            | 50                                                           | 50                                                | 15                                               | 15                                                          |                                                                                               |               | 15                                               | 30            | 15                                                        | 35                                                                      | 35                                                        |                                                          |                                                                        |
| 39 | Bristol              | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 41 | Suffolk              | 20           | 20            | 20            | 50                                                           | 50                                                | 40                                               | 40                                                          |                                                                                               |               |                                                  |               | 20                                                        | 30                                                                      | 30                                                        | 20                                                       | 20                                                                     |

Current Climate Conditions (Riverine Flooding): Number of Acres in the Representative Route at Risk

| #  | County               | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|----------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |                      |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 1  | District of Columbia | 5            | 5             | 5             | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 2  | Prince George's      | 30           | 30            | 30            | 100                                                          | 100                                               | 100                                              | 100                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 3  | Anne Arundel         | 50           | 50            | 50            | 160                                                          | 160                                               | 160                                              | 160                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore County     | 10           | 10            | 10            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 6  | Baltimore City       | 15           | 15            | 15            | 30                                                           | 30                                                | 30                                               | 30                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford              | 60           | 60            | 60            | 180                                                          | 180                                               | 180                                              | 180                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 8  | Cecil                | 35           | 35            | 65            | 110                                                          | 110                                               | 110                                              | 110                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle           | 50           | 50            | 115           | 210                                                          | 210                                               | 210                                              | 210                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware             | 5            | 5             | 50            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia         | 25           | 25            | 125           | 115                                                          | 115                                               | 115                                              | 115                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks                | 20           | 20            | 20            | 70                                                           | 70                                                | 70                                               | 70                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 13 | Mercer               | 35           | 35            | 35            | 95                                                           | 95                                                | 95                                               | 95                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 14 | Middlesex            | 45           | 45            | 50            | 165                                                          | 165                                               | 165                                              | 165                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 15 | Union                | 5            | 5             | 10            | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex                | 25           | 25            | 45            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson               | 45           | 60            | 70            | 200                                                          | 200                                               | 200                                              | 200                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 18 | New York             | 25           | 30            | 35            | 65                                                           | 55                                                | 55                                               | 65                                                          |                                                                                            |               |                                                  |               | 25                                                        | 40                                                                   | 30                                                        | 30                                                       | 40                                                                  |
| 19 | Queens               | 20           | 20            | 35            | 35                                                           | 45                                                | 45                                               | 35                                                          |                                                                                            |               |                                                  |               | 20                                                        | 15                                                                   | 15                                                        | 15                                                       | 15                                                                  |
| 20 | Kings                |              |               | 4             | 4                                                            | 30                                                | 30                                               | 4                                                           |                                                                                            |               |                                                  |               |                                                           | 4                                                                    | 30                                                        | 30                                                       | 4                                                                   |
| 21 | Bronx                | 50           | 50            | 55            | 115                                                          | 50                                                | 50                                               | 115                                                         |                                                                                            |               |                                                  |               | 50                                                        | 65                                                                   |                                                           |                                                          | 65                                                                  |
| 22 | Westchester          | 2            | 2             | 4             | 35                                                           | 2                                                 | 2                                                | 35                                                          |                                                                                            |               |                                                  |               | 2                                                         | 30                                                                   |                                                           |                                                          | 30                                                                  |
| 24 | Suffolk              |              |               |               |                                                              | 20                                                | 20                                               |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      | 20                                                        | 20                                                       |                                                                     |
| 25 | Putnam               |              |               |               | 4                                                            |                                                   |                                                  | 4                                                           |                                                                                            |               |                                                  |               |                                                           | 4                                                                    |                                                           |                                                          | 4                                                                   |
| 26 | Fairfield            | 65           | 70            | 85            | 100                                                          | 70                                                | 70                                               | 100                                                         |                                                                                            |               |                                                  |               | 65                                                        | 25                                                                   |                                                           |                                                          | 25                                                                  |
| 27 | New Haven            | 105          | 105           | 175           | 135                                                          | 220                                               | 220                                              | 135                                                         |                                                                                            |               | 165                                              | 70            | 105                                                       | 35                                                                   | 115                                                       | 115                                                      | 35                                                                  |
| 28 | Middlesex            | 45           | 60            | 45            | 45                                                           | 45                                                | 45                                               | 45                                                          | 10                                                                                         | 10            | 90                                               |               | 45                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London           | 235          | 270           | 235           | 235                                                          | 235                                               | 235                                              | 235                                                         | 235                                                                                        | 35            | 470                                              |               | 235                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 30 | Hartford             |              |               | 120           | 55                                                           | 75                                                | 80                                               | 60                                                          |                                                                                            |               |                                                  | 120           |                                                           | 55                                                                   | 75                                                        | 80                                                       | 60                                                                  |
| 31 | Tolland              |              |               | 15            | 15                                                           | 15                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  | 15            |                                                           | 15                                                                   | 15                                                        | 25                                                       | 25                                                                  |
| 33 | Washington           | 50           | 70            | 50            | 50                                                           | 50                                                | 50                                               | 50                                                          | 25                                                                                         | 20            | 95                                               |               | 50                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent                 | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               | 30                                               |               | 15                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence           | 15           | 15            | 35            | 40                                                           | 40                                                | 15                                               | 15                                                          |                                                                                            |               | 30                                               | 20            | 15                                                        | 25                                                                   | 25                                                        |                                                          |                                                                     |
| 37 | Worcester            |              |               |               |                                                              |                                                   | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 55                                                       | 55                                                                  |
| 38 | Middlesex            |              |               |               |                                                              |                                                   | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 15                                                       | 15                                                                  |
| 39 | Bristol              | 10           | 10            | 10            | 35                                                           | 35                                                | 10                                               | 10                                                          |                                                                                            |               | 5                                                | 2             | 10                                                        | 25                                                                   | 25                                                        |                                                          |                                                                     |
| 40 | Norfolk              | 10           | 10            | 20            | 50                                                           | 50                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               | 10                                                        | 40                                                                   | 40                                                        |                                                          |                                                                     |
| 41 | Suffolk              | 2            | 2             | 1             | 5                                                            | 5                                                 | 3                                                | 3                                                           |                                                                                            |               |                                                  |               | 2                                                         | 4                                                                    | 4                                                         | 1                                                        | 1                                                                   |

Current Climate Conditions (Sea Level Rise Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 5  | Baltimore    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle   | 1            | 1             | 3             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware     |              |               | 15            | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia |              |               | 1             |                                                              |                                                   |                                                  |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks        | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson       |              |               |               | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 21 | Bronx        | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         | 1                                                                       | 1                                                         |                                                          |                                                                        |
| 26 | Fairfield    | 1            | 1             | 2             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                | 1             | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 28 | Middlesex    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London   | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           | 5                                                                                             | 1             | 5                                                |               | 5                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 33 | Washington   |              | 1             |               |                                                              |                                                   |                                                  |                                                             |                                                                                               | 1             |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 41 | Suffolk      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |

Mid-Century Climate Conditions (Sea Level Rise Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 5  | Baltimore    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle   | 3            | 3             | 5             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware     |              |               | 20            | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia |              |               | 1             |                                                              |                                                   |                                                  |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks        | 1            | 1             | 1             | 2                                                            | 2                                                 | 2                                                | 2                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson       |              |               |               | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 21 | Bronx        | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         | 1                                                                       | 1                                                         |                                                          |                                                                        |
| 26 | Fairfield    | 1            | 1             | 3             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                | 1             | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 28 | Middlesex    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                             | 1             | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London   | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          | 10                                                                                            | 1             | 10                                               |               | 10                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 33 | Washington   |              | 1             |               |                                                              |                                                   |                                                  |                                                             |                                                                                               | 1             |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 41 | Suffolk      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |

End-of-Century Climate Conditions (Sea Level Rise Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County,<br>CT, to Washington County,<br>RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                         |                                                           |                                                          |                                                                        |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                                  | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative<br>3.1 (via<br>Central<br>Connecticut<br>and<br>Providence) | Alternative<br>3.2 (via Long<br>Island and<br>Providence) | Alternative<br>3.3 (via Long<br>Island and<br>Worcester) | Alternative<br>3.4 (via<br>Central<br>Connecticut<br>and<br>Worcester) |
| 3  | Anne Arundel |              |               | 1             |                                                              |                                                   |                                                  |                                                             |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 5  | Baltimore    | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 7  | Harford      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 9  | New Castle   | 35           | 35            | 55            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 10 | Delaware     | 1            | 1             | 30            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 11 | Philadelphia | 1            | 1             | 40            | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 12 | Bucks        | 1            | 1             | 1             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 16 | Essex        | 15           | 15            | 30            | 45                                                           | 45                                                | 45                                               | 45                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 17 | Hudson       | 1            | 1             | 1             | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 19 | Queens       | 3            | 3             | 3             | 3                                                            | 3                                                 | 3                                                | 3                                                           |                                                                                               |               |                                                  |               | 3                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 21 | Bronx        | 4            | 4             | 2             | 15                                                           | 4                                                 | 4                                                | 15                                                          |                                                                                               |               |                                                  |               | 4                                                         | 10                                                                      |                                                           |                                                          | 10                                                                     |
| 26 | Fairfield    | 10           | 10            | 15            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                               |               |                                                  |               | 10                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 27 | New Haven    | 20           | 20            | 20            | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                               |               | 5                                                | 1             | 20                                                        |                                                                         | 1                                                         | 1                                                        |                                                                        |
| 28 | Middlesex    | 2            | 3             | 2             | 2                                                            | 2                                                 | 2                                                | 2                                                           | 1                                                                                             | 1             | 2                                                |               | 2                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 29 | New London   | 90           | 90            | 90            | 90                                                           | 90                                                | 90                                               | 90                                                          | 90                                                                                            | 1             | 90                                               |               | 90                                                        |                                                                         |                                                           |                                                          |                                                                        |
| 33 | Washington   |              | 1             |               |                                                              |                                                   |                                                  |                                                             |                                                                                               | 1             |                                                  |               |                                                           |                                                                         |                                                           |                                                          |                                                                        |
| 34 | Kent         | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 35 | Providence   | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                               |               | 1                                                |               | 1                                                         |                                                                         |                                                           |                                                          |                                                                        |
| 40 | Norfolk      |              |               |               |                                                              |                                                   | 3                                                | 3                                                           |                                                                                               |               |                                                  |               |                                                           |                                                                         |                                                           | 3                                                        | 3                                                                      |
| 41 | Suffolk      | 20           | 20            | 20            | 20                                                           | 20                                                | 35                                               | 35                                                          |                                                                                               |               |                                                  |               | 20                                                        |                                                                         |                                                           | 15                                                       | 15                                                                     |

Current Climate Conditions (Storm Surge Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 3  | Anne Arundel | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore    | 3            | 3             | 3             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle   | 35           | 35            | 60            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware     | 1            | 1             | 30            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia | 15           | 15            | 55            | 15                                                           | 15                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks        | 15           | 15            | 15            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex        | 15           | 15            | 40            | 55                                                           | 55                                                | 55                                               | 55                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson       | 1            | 1             | 1             | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 19 | Queens       | 4            | 4             | 4             | 4                                                            | 4                                                 | 4                                                | 4                                                           |                                                                                            |               |                                                  |               | 4                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 21 | Bronx        | 15           | 15            | 10            | 30                                                           | 15                                                | 15                                               | 30                                                          |                                                                                            |               |                                                  |               | 15                                                        | 15                                                                   |                                                           |                                                          | 15                                                                  |
| 22 | Westchester  |              |               | 1             |                                                              |                                                   |                                                  |                                                             |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 26 | Fairfield    | 20           | 20            | 25            | 20                                                           | 20                                                | 20                                               | 20                                                          |                                                                                            |               |                                                  |               | 20                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven    | 25           | 25            | 35            | 25                                                           | 30                                                | 30                                               | 25                                                          |                                                                                            |               | 10                                               | 10            | 25                                                        |                                                                      | 5                                                         | 5                                                        |                                                                     |
| 28 | Middlesex    | 2            | 3             | 2             | 2                                                            | 2                                                 | 2                                                | 2                                                           | 1                                                                                          | 1             | 2                                                |               | 2                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London   | 125          | 125           | 125           | 125                                                          | 125                                               | 125                                              | 125                                                         | 125                                                                                        | 1             | 125                                              |               | 125                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 33 | Washington   |              | 1             |               |                                                              |                                                   |                                                  |                                                             |                                                                                            | 1             |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent         | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk      | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           | 1                                                        | 1                                                                   |

Mid-Century Climate Conditions (Storm Surge Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 3  | Anne Arundel | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore    | 30           | 30            | 30            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford      | 10           | 10            | 5             | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle   | 155          | 155           | 195           | 325                                                          | 325                                               | 325                                              | 325                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware     | 1            | 1             | 45            | 35                                                           | 35                                                | 35                                               | 35                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia | 25           | 25            | 70            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks        | 55           | 55            | 55            | 165                                                          | 165                                               | 165                                              | 165                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex        | 20           | 20            | 50            | 75                                                           | 75                                                | 75                                               | 75                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson       | 20           | 20            | 20            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 19 | Queens       | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 21 | Bronx        | 45           | 45            | 30            | 70                                                           | 45                                                | 45                                               | 70                                                          |                                                                                            |               |                                                  |               | 45                                                        | 25                                                                   |                                                           |                                                          | 25                                                                  |
| 22 | Westchester  | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 26 | Fairfield    | 65           | 65            | 80            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                            |               |                                                  |               | 65                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven    | 50           | 50            | 65            | 50                                                           | 70                                                | 70                                               | 50                                                          |                                                                                            |               | 15                                               | 15            | 50                                                        |                                                                      | 20                                                        | 20                                                       |                                                                     |
| 28 | Middlesex    | 25           | 30            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          | 5                                                                                          | 5             | 25                                               |               | 25                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London   | 175          | 180           | 175           | 175                                                          | 175                                               | 175                                              | 175                                                         | 175                                                                                        | 2             | 175                                              |               | 175                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 33 | Washington   | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                          | 1             | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent         | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               | 10                                               |               | 10                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence   | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               | 5                                                |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk      | 10           | 10            | 10            | 10                                                           | 10                                                | 15                                               | 15                                                          |                                                                                            |               |                                                  |               | 10                                                        |                                                                      |                                                           | 5                                                        | 5                                                                   |

End-of-Century Climate Conditions (Storm Surge Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County       | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long<br>Island and<br>Providence) | Alt 3.3<br>(via Long<br>Island and<br>Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                          |                                                                     |
|----|--------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
|    |              |              |               |               |                                                              |                                                   |                                                  |                                                             | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long<br>Island and<br>Providence) | Alternative 3.3<br>(via Long<br>Island and<br>Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and<br>Worcester) |
| 3  | Anne Arundel | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 5  | Baltimore    | 35           | 35            | 35            | 50                                                           | 50                                                | 50                                               | 50                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 7  | Harford      | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 9  | New Castle   | 160          | 160           | 200           | 340                                                          | 340                                               | 340                                              | 340                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 10 | Delaware     | 2            | 2             | 45            | 40                                                           | 40                                                | 40                                               | 40                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 11 | Philadelphia | 25           | 25            | 75            | 25                                                           | 25                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 12 | Bucks        | 60           | 60            | 60            | 165                                                          | 165                                               | 165                                              | 165                                                         |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 16 | Essex        | 20           | 20            | 50            | 75                                                           | 75                                                | 75                                               | 75                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 17 | Hudson       | 20           | 20            | 20            | 65                                                           | 65                                                | 65                                               | 65                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                          |                                                                     |
| 19 | Queens       | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               |                                                  |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 21 | Bronx        | 45           | 45            | 30            | 70                                                           | 45                                                | 45                                               | 70                                                          |                                                                                            |               |                                                  |               | 45                                                        | 25                                                                   |                                                           |                                                          | 25                                                                  |
| 22 | Westchester  | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           |                                                                                            |               |                                                  |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 26 | Fairfield    | 75           | 80            | 90            | 80                                                           | 80                                                | 80                                               | 80                                                          |                                                                                            |               |                                                  |               | 75                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 27 | New Haven    | 50           | 50            | 65            | 50                                                           | 75                                                | 75                                               | 50                                                          |                                                                                            |               | 20                                               | 15            | 50                                                        |                                                                      | 20                                                        | 20                                                       |                                                                     |
| 28 | Middlesex    | 25           | 30            | 25            | 25                                                           | 25                                                | 25                                               | 25                                                          | 5                                                                                          | 5             | 25                                               |               | 25                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 29 | New London   | 190          | 195           | 190           | 190                                                          | 190                                               | 190                                              | 190                                                         | 190                                                                                        | 2             | 190                                              |               | 190                                                       |                                                                      |                                                           |                                                          |                                                                     |
| 33 | Washington   | 1            | 2             | 1             | 1                                                            | 1                                                 | 1                                                | 1                                                           | 1                                                                                          | 1             | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 34 | Kent         | 10           | 10            | 10            | 10                                                           | 10                                                | 10                                               | 10                                                          |                                                                                            |               | 10                                               |               | 10                                                        |                                                                      |                                                           |                                                          |                                                                     |
| 35 | Providence   | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                                | 5                                                           |                                                                                            |               | 5                                                |               | 5                                                         |                                                                      |                                                           |                                                          |                                                                     |
| 41 | Suffolk      | 15           | 15            | 20            | 15                                                           | 15                                                | 25                                               | 25                                                          |                                                                                            |               |                                                  |               | 15                                                        |                                                                      |                                                           | 5                                                        | 5                                                                   |

Current Climate Conditions (Riverine Flooding): At Grade and Trench Construction Type - Number of Acres of Representative Route at Risk

| #  | County           | Existing NEC | Alternative 1 | Alternative 2 | Alt 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alt 3.2<br>(via Long Island<br>and<br>Providence) | Alt 3.3<br>(via Long Island<br>and Worcester) | Alt 3.4<br>(via Central<br>Connecticut<br>and Worcester) | Alternative 1: Old Saybrook-<br>Kenyon (Middlesex County, CT,<br>to Washington County, RI) |               | Alternative 2: New Haven-<br>Hartford-Providence |               | Alternative 3: New York County, NY, to Suffolk County, MA |                                                                      |                                                           |                                                       |                                                                  |
|----|------------------|--------------|---------------|---------------|--------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|---------------|-----------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|
|    |                  |              |               |               |                                                              |                                                   |                                               |                                                          | Existing NEC                                                                               | Alternative 1 | Existing NEC                                     | Alternative 2 | Existing NEC                                              | Alternative 3.1<br>(via Central<br>Connecticut<br>and<br>Providence) | Alternative 3.2<br>(via Long Island<br>and<br>Providence) | Alternative 3.3<br>(via Long Island<br>and Worcester) | Alternative 3.4<br>(via Central<br>Connecticut<br>and Worcester) |
| 2  | Prince George's  | 25           | 25            | 25            | 60                                                           | 60                                                | 60                                            | 60                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 3  | Anne Arundel     | 30           | 30            | 30            | 30                                                           | 30                                                | 30                                            | 30                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 5  | Baltimore County | 5            | 5             | 5             | 15                                                           | 15                                                | 15                                            | 15                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 6  | Baltimore City   | 15           | 15            | 15            | 15                                                           | 15                                                | 15                                            | 15                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 7  | Harford          | 10           | 10            | 20            | 30                                                           | 30                                                | 30                                            | 30                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 8  | Cecil            |              |               | 1             | 2                                                            | 2                                                 | 2                                             | 2                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 9  | New Castle       | 40           | 40            | 65            | 65                                                           | 65                                                | 65                                            | 65                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 10 | Delaware         | 1            | 1             | 30            | 15                                                           | 15                                                | 15                                            | 15                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 11 | Philadelphia     | 15           | 15            | 60            | 15                                                           | 15                                                | 15                                            | 15                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 12 | Bucks            | 15           | 15            | 15            | 55                                                           | 55                                                | 55                                            | 55                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 13 | Mercer           | 30           | 30            | 30            | 65                                                           | 65                                                | 65                                            | 65                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 14 | Middlesex        | 40           | 40            | 40            | 130                                                          | 130                                               | 130                                           | 130                                                      |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 15 | Union            | 3            | 3             | 10            | 15                                                           | 15                                                | 15                                            | 15                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 16 | Essex            | 15           | 15            | 40            | 55                                                           | 55                                                | 55                                            | 55                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 17 | Hudson           | 1            | 1             | 1             | 25                                                           | 25                                                | 25                                            | 25                                                       |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           |                                                       |                                                                  |
| 19 | Queens           | 4            | 4             | 4             | 4                                                            | 4                                                 | 4                                             | 4                                                        |                                                                                            |               |                                                  |               | 4                                                         |                                                                      |                                                           |                                                       |                                                                  |
| 21 | Bronx            | 35           | 35            | 30            | 60                                                           | 35                                                | 35                                            | 60                                                       |                                                                                            |               |                                                  |               | 35                                                        | 25                                                                   |                                                           |                                                       | 25                                                               |
| 22 | Westchester      | 1            | 1             | 2             | 5                                                            | 1                                                 | 1                                             | 5                                                        |                                                                                            |               |                                                  |               | 1                                                         | 5                                                                    |                                                           |                                                       | 5                                                                |
| 24 | Suffolk          |              |               |               |                                                              | 5                                                 | 5                                             |                                                          |                                                                                            |               |                                                  |               |                                                           |                                                                      | 5                                                         | 5                                                     |                                                                  |
| 26 | Fairfield        | 30           | 30            | 35            | 30                                                           | 30                                                | 30                                            | 30                                                       |                                                                                            |               |                                                  |               | 30                                                        |                                                                      |                                                           |                                                       |                                                                  |
| 27 | New Haven        | 35           | 35            | 65            | 35                                                           | 65                                                | 65                                            | 35                                                       |                                                                                            |               | 40                                               | 30            | 35                                                        |                                                                      | 30                                                        | 30                                                    |                                                                  |
| 28 | Middlesex        | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                             | 5                                                        | 1                                                                                          | 1             | 10                                               |               | 5                                                         |                                                                      |                                                           |                                                       |                                                                  |
| 29 | New London       | 135          | 135           | 135           | 135                                                          | 135                                               | 135                                           | 135                                                      | 135                                                                                        | 2             | 265                                              |               | 135                                                       |                                                                      |                                                           |                                                       |                                                                  |
| 30 | Hartford         |              |               | 105           | 1                                                            | 1                                                 | 1                                             | 1                                                        |                                                                                            |               |                                                  | 105           |                                                           | 1                                                                    | 1                                                         | 1                                                     | 1                                                                |
| 31 | Tolland          |              |               |               |                                                              |                                                   | 5                                             | 5                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 5                                                     | 5                                                                |
| 33 | Washington       | 5            | 5             | 5             | 5                                                            | 5                                                 | 5                                             | 5                                                        | 5                                                                                          | 1             | 15                                               |               | 5                                                         |                                                                      |                                                           |                                                       |                                                                  |
| 34 | Kent             | 1            | 1             | 1             | 1                                                            | 1                                                 | 1                                             | 1                                                        |                                                                                            |               | 1                                                |               | 1                                                         |                                                                      |                                                           |                                                       |                                                                  |
| 35 | Providence       | 10           | 10            | 15            | 15                                                           | 15                                                | 10                                            | 10                                                       |                                                                                            |               | 20                                               | 2             | 10                                                        | 5                                                                    | 5                                                         |                                                       |                                                                  |
| 37 | Worcester        |              |               |               |                                                              |                                                   | 5                                             | 5                                                        |                                                                                            |               |                                                  |               |                                                           |                                                                      |                                                           | 5                                                     | 5                                                                |
| 39 | Bristol          | 5            | 5             | 5             | 30                                                           | 30                                                | 5                                             | 5                                                        |                                                                                            |               | 2                                                | 2             | 5                                                         | 25                                                                   | 25                                                        |                                                       |                                                                  |
| 40 | Norfolk          | 10           | 10            | 10            | 45                                                           | 45                                                | 10                                            | 10                                                       |                                                                                            |               |                                                  |               | 10                                                        | 35                                                                   | 35                                                        |                                                       |                                                                  |
| 41 | Suffolk          | 1            | 1             | 1             | 3                                                            | 3                                                 | 2                                             | 2                                                        |                                                                                            |               |                                                  |               | 1                                                         | 1                                                                    | 1                                                         | 1                                                     | 1                                                                |