COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD

Petition of NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid for Approval to Construct, Operate, and Maintain a New 115 kV Transmission Line in Acushnet, New Bedford, Dartmouth, and Fall River, Massachusetts Pursuant to G.L. c. 164, §69J	)	EFSB 21-04
Petition of NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid for Approval to Construct, Operate and Maintain a New 115-kV Transmission Line in Acushnet, New Bedford, Dartmouth and Fall River, Massachusetts Pursuant to G.L. c. 164, § 72	)	D.P.U. 21-149

DRAFT TENTATIVE DECISION

On the Decision:

Brian T. Wilmer
Caleb T. Cheng
Yonathan Mengesha

Presiding Officer
Connor C. Tarr
April 10, 2026

The Siting Board translates materials into other languages to assist people with limited English proficiency. The Siting Board has reasonably attempted to provide an accurate translation of the original material, but due to the nuances in translating to a foreign language, slight differences may exist. While the Siting Board has provided translated versions, the English version is the official version of the Siting Board's decision.

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Abbreviations

2025-2030 CECP	Clean Energy and Climate Plan for 2025 and 2030
2026 Needs Assessment	Transmission Needs Assessment by ISO-NE of the transmission system serving the Southeast Massachusetts-Rhode Island area through 2026, conducted in 2016
2029 Needs Update	Southeastern Massachusetts and Rhode Island Area 2029 Needs Assessment Update, issued 2020
2050 Determination	Determination of Statewide Emissions Limit for 2050
2050 Roadmap	Massachusetts 2050 Decarbonization Roadmap
AC	alternating current
ACECs	Areas of Critical Environmental Concern
BESS	Battery Energy Storage System
Beverly-Salem	New England Power Company d/b/a National Grid, EFSB 19-04/D.P.U. 19-77/19-78 (2021)
BMPs	best management practices
BPS	Bulk Power System
Braintree	Planning Board of Braintree v. Department of Public Utilities, 420 Mass. 22 (1995)
BRI	Biodiversity Research Institute
Candidate Routes	seven route options, including the Proposed Route
CELT Report	Capacity, Energy, Loads, and Transmission Report, by ISO-NE
CLLs	critical load levels
CMP	Conservation and Management Permit
CNA	Copicut Neighborhood Association
Colonial 2016	Colonial Gas Company d/b/a National Grid, EFSB 16-01 (2016)
Colonial 2019	Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30 (2019)
Companies	Eversource and National Grid
Companies' Forecast	forecast that combined the Companies' internal forecasts for substations within the Load Pocket
Culvert	culvert on Quanapoag Road over the Copicut River
CVP	Certified Vernal Pools
dBA	A-weighted decibels

DCR	Massachusetts Department of Conservation and Recreation
DCTs	double-circuit towers
Department	Massachusetts Department of Public Utilities
DFW	Massachusetts Division of Fish and Wildlife
East Eagle	NSTAR Electric Company d/b/a Eversource Energy, EFSB 14-04/D.P.U. 14-153/14-154 (2017)
EE	energy efficiency
EEA	(Massachusetts) Executive Office of Energy and Environmental Affairs
EENF	Expanded Environmental Notification Form, MEPA
EFSB	Massachusetts Energy Facilities Siting Board
EIR	environmental impact report, MEPA
EJ	environmental justice
EJ Policy	Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs, dated June 24, 2021
EJ Protocols	MEPA Public Involvement Protocol for Environmental Justice Populations
EMF	electric and magnetic fields
Eversource	NSTAR Electric Company d/b/a Eversource Energy (co-petitioner)
FRPD	Fall River Police Department
GCEP	NSTAR Electric Company d/b/a Eversource Energy, EFSB 22-03/D.P.U. 22-21 (2024)
GHG	greenhouse gas
GHG Policy	MEPA Greenhouse Gas Emission Policy and Protocol
GIS	Geographic Information System
G.L. c.	Massachusetts General Laws chapter
GWSA	Global Warming Solutions Act, St. 2028, c. 298
HDD	horizontal directional drilling
Hz	Hertz
ICES	International Commission on Electromagnetic Safety
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ISO-NE	Independent System Operator of New England

kV	kilovolt
kV/m	kilovolt per meter
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MassGIS	Massachusetts Geographic Information System
MEPA	Massachusetts Environmental Policy Act
MESA	Massachusetts Endangered Species Act
mG	milligauss
MHC	Massachusetts Historical Commission
Mid Cape Reliability	NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-06/D.P.U. 19 142/19 143 (2022)
MVA	megavolt-amperes
MW	megawatts
MWh	megawatt-hours
N-1	first contingency, the loss of the power system element (a generation or transmission facility) with the largest impact on system reliability
N-1-1	second contingency, the loss of an additional power element after a first contingency, which, has the largest impact on the system
National Grid	New England Power Company d/b/a National Grid (co-petitioner)
NERC	North American Electric Reliability Corporation
New Line	An approximately 12.5 mile, proposed overhead 115 kV electric transmission line between Eversource's Industrial Park Tap in Acushnet, and National Grid's Bell Rock Substation in Fall River
NHESP	Natural Heritage Endangered Species Program
Notice	Notice of Adjudication and Public Comment Hearing
NPCC	Northeast Power Coordinating Council
NPDES	National Pollutant Discharge Elimination System
NTAs	non-transmission alternatives
OHM	oil and hazardous materials
ORWs	Outstanding Resource Waters
OSHA	U.S. Occupational Safety and Health Administration

Outreach Plan	Construction Community Outreach Plan
PAL	Public Archaeological Laboratory
Petitions	Companies Siting Board Petition and Section 72 Petition
PP-3 procedure	ISO Planning Procedure No. 3, "Reliability Standards for the New England Area Pool Transmission Facilities"
Project	New Line and Substation Work, known as the Acushnet to Fall River Reliability Project
Project Load Pocket	load pocket relating to the Project includes Acushnet, Dartmouth, Fairhaven, Fall River, Freetown, Marion, Mattapoisett, New Bedford, Rochester, and Westport in Massachusetts, and Jamestown, Little Compton, Middletown, Newport, Portsmouth, and Tiverton in Rhode Island
Proposed Route	Companies' proposed route for the New Line, entirely within the existing Companies' ROWs, known as Route 1
Proposed Route Study Area	Area within the Proposed Route ROW and within 300 feet of the edges of the Proposed Route ROW
PSC	public service corporation
PV	photovoltaics
Restructuring Act	An Act Relative to Restructuring the Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Enhanced Consumer Protections Therein, St. 1997, c. 164 (Electric Industry Restructuring Act of 1997)
Roadmap Act	An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, St. 2021, c. 8
Routing Study Area	land within the following geographic boundaries: (1) Enbridge Natural Gas Pipeline Corridor to the north; (2) U.S. Highway Route 65 to the south; (3) Bell Rock Substation to the west; and (4) Industrial Park Tap to the east
ROW	right-of-way
RSP	Regional System Plan
Save the Bay	Save the Bay v. Department of Public Utilities, 366 Mass. 667 (1975)
Secretary	Secretary of the Executive Office of Energy and Environmental Affairs
Section 61 Findings	G.L. c. 30, § 61
Section 106	36 CFR, Part 800

Section 72 Petition	Companies' petition pursuant to G.L. c. 164, § 72
SEIR	Single Environmental Impact Report, MEPA
SEMA-RI	Southeastern Massachusetts-Rhode Island
SF_6	sulfur hexafluoride
Siting Board	Massachusetts Energy Facilities Siting Board
Siting Board Petition	Companies' petition pursuant to G.L. c. 164, § 69J
Smart Growth & Energy Policy	Smart Growth/Smart Energy policy established by the EEA in 2007
Somerset-Fall River	New England Power Company d/b/a National Grid, D.P.U. 22-95 (2026)
SouthCoast Wind	SouthCoast Wind Energy LLC, EFSB 22-04/D.P.U. 22-67/22-68 (2024)
Stoughton-Boston	Boston Edison Company d/b/a NSTAR Electric, EFSB 04-1/D.P.U. 04-5/04-6 (2005)
Study Area	The geographic area considered for possible routes for the New Line
Substation Work	protection and control upgrades, including installation of a wave trap and line tuner, at the Bell Rock Substation in Fall River, Tremont Substation in Wareham, and Acushnet Substation
Sudbury-Hudson	NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83 (2019)
SWPPP	stormwater pollution prevention plan
TMP	Traffic Management Plan
Town of Sudbury	Town of Sudbury v. Energy Facilities Siting Board, 487 Mass. 737 (2021)
Town of Truro	Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974)
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Walpole-Holbrook	NSTAR Electric Company d/b/a Eversource Energy, EFSB 14-2/D.P.U. 14-73/14-74 (2017)
WHO	World Health Organization

Woburn-Wakefield	NSTAR Electric Company d/b/a Eversource Energy, EFSB 15-04/D.P.U. 15-140/15-141 (2018)
WPA	Wellhead Protection Area

SUMMARY OF THE FINAL DECISION

The Acushnet to Fall River Reliability Project (the "Project") is jointly proposed by NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid (the "Companies"). The Project involves construction of an approximately 12.1-mile, primarily overhead, 115 kilovolt electric transmission line along an existing right-of-way between Eversource's Industrial Park Tap in Acushnet and National Grid's Bell Rock Substation in Fall River, Massachusetts. The Project is expected to cost approximately $52.7 million in 2021 dollars. The Tentative Decision recommends approval of the Project, with conditions.

The Tentative Decision finds that the Project is needed to address both thermal and voltage deficiencies on the transmission system that could produce widespread outages in 16 municipalities in southeastern Massachusetts and Rhode Island under various contingency scenarios that were evaluated under established system planning procedures and rules. The Companies conducted a detailed examination of seven candidate routes and selected the Proposed Route primarily due to its cost, which was approximately one-fourth, or less, than the other routes evaluated. The Companies also evaluated other types of transmission solutions, and non-transmission alternatives (such as generation and energy storage), which the Tentative Decision finds were either infeasible, or inferior to the Project on the basis of cost, reliability, or environmental impacts.

The Project would be sited within an existing transmission line right-of-way, which helps limit impacts associated with Project construction. Project construction in the ROW would require permanent conversion of approximately 27.5 acres of forested uplands to shrub lands, or from existing grasslands and forested wetlands to scrub-shrub or emergent wetlands. The Companies would employ Best Management Practices during construction to limit impacts near environmentally sensitive resources, such as wetlands and habitat areas. The Project has the potential to result in impacts to state-listed species, for which the Companies would develop species-specific protection plans and mitigation measures in consultation with the Natural Heritage and Endangered Species Program and the U.S. Fish and Wildlife Service. The Project would result in minimal changes to magnetic field levels along the edge of the right-of-way, with expected decreases in many locations. The Certificate issued for the Project's Single Environmental Impact Report found that the Project "adequately and properly complied with MEPA and its implementing regulations."

The Tentative Decision finds the Project would be consistent with current health, environmental protection, and resource use and development policies of the Commonwealth and would benefit all residents in the affected areas, including EJ populations, by increasing the reliability of electricity service and preventing the possibility of transmission-related service outages. The Tentative Decision recommends Project approval, with conditions, to ensure a reliable energy supply, with a minimum impact on the environment, at the lowest possible cost.

Pursuant to G.L. c. 164, § 69J, the Massachusetts Energy Facilities Siting Board ("Siting Board") hereby [approves], subject to the conditions set forth below, the Petition of NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid to construct, operate, and maintain a 115 kilovolt transmission line between Acushnet and Fall River, Massachusetts.

I. INTRODUCTION

A. Description of the Proposed Project

NSTAR Electric Company d/b/a Eversource Energy ("Eversource") and New England Power Company d/b/a National Grid ("National Grid") (together, the "Companies") propose to construct, operate, and maintain an approximately 12.1-mile, primarily overhead, 115 kilovolt ("kV") electric transmission line along existing rights-of-way ("ROW") between Eversource's Industrial Park Tap in Acushnet, and National Grid's Bell Rock Substation in Fall River, Massachusetts (the "New Line") (Exh. EN-1, at 1). The New Line is an extension of Line 114, an existing approximately 16-mile 115-kV transmission line that currently travels between Eversource's existing Tremont and Acushnet Substations (Exh. EN-2, at 1-1 n.1).

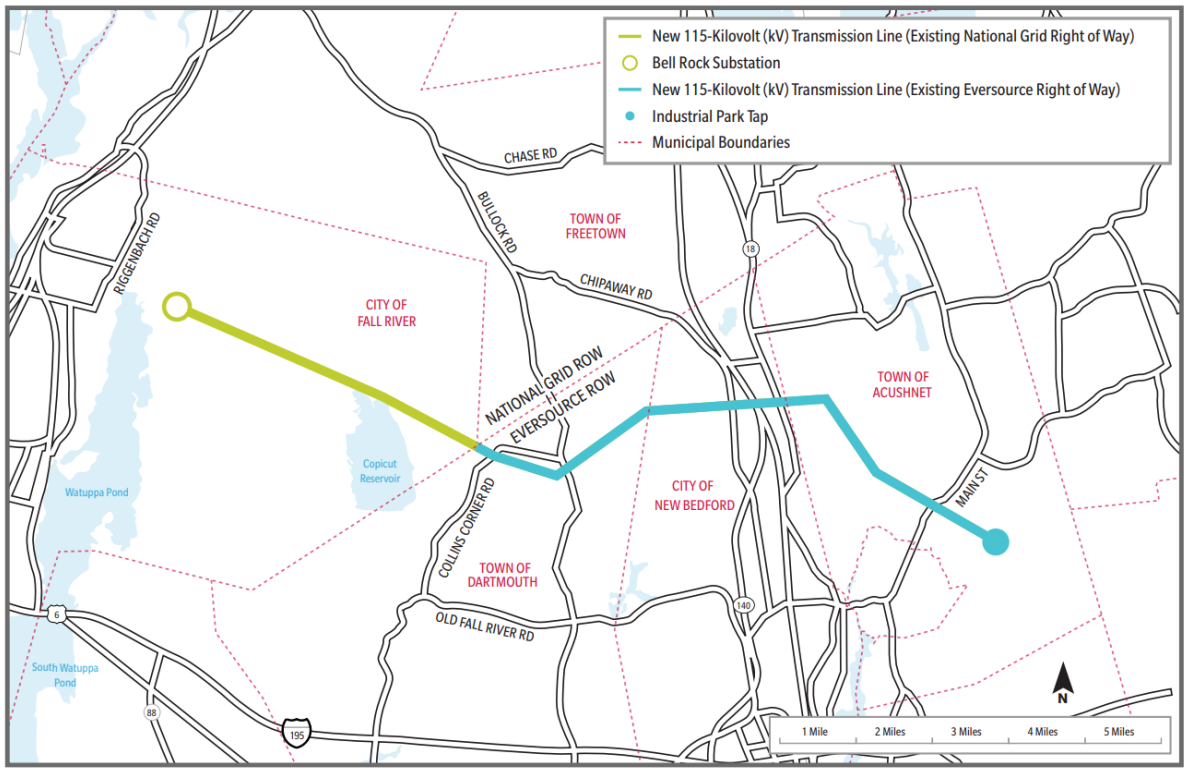
A 7.9-mile portion of the New Line, located in Acushnet, New Bedford, and Dartmouth, would be owned and operated by Eversource; National Grid would own and operate a 4.2-mile portion of the New Line located in Fall River (Exh. EN-1, at 1 n.1). While most of the New Line would be overhead, two small sections, totaling approximately 600 linear feet, would run underground to avoid multiple overhead line crossings at the Industrial Park Tap in Acushnet and the High Hill Switching Station in Dartmouth (Exh. EN-2, at 1-3).

With the construction of the New Line, National Grid will also undertake protection and control upgrades, including installation of a wave trap and line tuner,[1] at the Bell Rock Substation to complete the termination for the New Line; Eversource would upgrade protection

[1] A line trap (also known as a wave trap) is an inductive coil connected to a transmission line at each of its terminals to block the powerline carrier signal from traveling beyond its associated transmission line, thus preventing signal loss (Exh. EFSB-G-10). A line tuner is a low-voltage electronic device that is used to optimize the strength of the power-line-carrier signal (Exh. EFSB-G-10).

and control equipment at its Tremont Substation in Wareham and at its Acushnet Substation in Acushnet (collectively, the "Substation Work") (Exh. EN-1, at 1-2). The New Line, together with the Substation Work, comprises the "Acushnet to Fall River Reliability Project" (the "Project"). The Project is expected to cost approximately $52.7 million in 2021 dollars (Exh. EN-2, at 1-5, 4-25). See also, Section VI.E, infra.

Figure 1: Map of the Proposed Route.



Source: Notice of Adjudication and Public Comment Hearing, Fig. 1.

B. Procedural History

On December 22, 2021, the Companies filed petitions for: (1) Siting Board approval to construct the Project pursuant to G.L. c. 164, § 69J ("Siting Board Petition") (Exh. EN-1); and (2) Department of Public Utilities ("Department") approval to construct the Project pursuant to G.L. c. 164, § 72 ("Section 72 Petition") (Exh. EN-3) (together, the "Petitions"). The Siting Board Petition was docketed as EFSB 21-04 and the Section 72 Petition as D.P.U. 21-149. On January 6, 2022, the Chair of the Department referred the Section 72 Petition to the Siting Board

for consolidation and review with the Siting Board Petition pursuant to G.L. c. 164, § H(2), and docketed the proceeding as EFSB 21-04/D.P.U. 21-149. The Siting Board conducted a single adjudicatory proceeding and developed a single evidentiary record for the Petitions.

On March 29, 2022, the Siting Board issued a Notice of Adjudication and Public Comment Hearing ("Notice"), setting a public comment hearing date of April 25, 2022. The Siting Board directed the Companies to translate the Notice into Spanish, Cape Verdean Creole, and Portuguese (Exh. EN-6, at 1-2). As directed by the Siting Board, the Companies published the Notice: (1) in English in the April 11, 2022, and April 18, 2022, editions of the Standard-Times; (2) in Spanish in the April 7, 2022, and April 14, 2022, editions of El Mundo; (3) in Portuguese and in English in the April 13, 2022, and April 18, 2022, editions of The Fall River Herald; and (4) in Portuguese in the April 6, 2022, April 13, 2022, and April 20, 2022, editions of the Portuguese Times (Exh. EN-7, at 1).

From the Assessors' Offices in the municipalities of Acushnet, Dartmouth, New Bedford, Fall River, and Wareham, the Companies obtained abutters lists containing all owners of all property abutting the outermost property lines of the Project, including: (1) the owners of property directly opposite the ROW on any public or private street or way; and (2) the owners of any property abutting such properties, including individual owners of residential condominiums, if any portion of the property is within 300 feet of the outermost property lines of the Project (Exh. EN-7, at 1). All property owners were identified by using the most recent applicable tax lists from the Assessors' Offices (Exh. EN-7, at 1). The Presiding Officer also directed the Companies to identify all U.S. Mail addresses within 300 feet of the outermost property lines of the Project. As directed by the Presiding Officer, on April 8, 2022, the Companies sent copies of the Notice in English, Spanish, Portuguese, and Cape Verdean Creole by first-class mail to: (1) the owners of properties on the Abutter Lists and the applicable U.S. Mail addresses;[2] (2) the Planning Boards, Selectboards, City Councils; town manager/mayors; Zoning Boards,

[2] On April 12, 2022, the Companies mailed copies of the Notice in English, Spanish, Portuguese, and Cape Verdean Creole to 21 additional abutters identified through further review of the list of abutters (Exh. EN-7, at 1-2).

Department of Public Works, and Conservation Commissions of Acushnet, Dartmouth, New Bedford, and Fall River, as applicable (Exh. EN-7, at 2).

The Companies sent copies of the Petitions and appendices to the Town or City Clerk's offices in Acushnet, Dartmouth, Fall River, and New Bedford with a request for the documents to be made available to the public until such time as a decision has been issued (Exh. EN-7, at 2). On April 7, 2022, copies of the Notice, in all translated languages, were delivered to the City/Town Clerks of Acushnet, Dartmouth, Fall River, and New Bedford with a request to post the hard copy Notices in their offices until May 9, 2022, and an electronic copy on their websites until May 9, 2022 (Exh. EN-7, at 2). On April 7, 2022, the Companies sent the Notice in all translated languages to the Acushnet Public Library, Dartmouth Public Library, Fall River Public Library, and New Bedford Free Public Library with a request to make the Notice available until May 9, 2022 (Exh. EN-7, at 2). The Petitions and Appendices were also sent to these libraries on April 7, 2022, with the request to make them available until a Final Decision has been issued by the Siting Board (Exh. EN-7, at 2). In April 2022, the Companies posted the Petitions and Notice on their respective websites for the Project (Exh. EN-7, at 2).

The Siting Board staff conducted a remote public comment hearing using Zoom videoconferencing on April 25, 2022,[3] with Spanish, Portuguese, and Cape Verdean Creole interpretation provided. At that public comment hearing, commenters raised various concerns regarding the Project, including the Project's effect on at-risk species, such as bald eagles, the potential for the public to use off-road vehicles to trespass onto land cleared for the Project and the resulting environmental impacts, the effect of Eversource's existing vegetation management

[3] Pursuant to Massachusetts Open Meeting Law, G.L. c. 30A, §§18-25, 980 CMR 2.04(1), Governor Baker's March 10, 2020, Declaration of Emergency, and the related March 12, 2020, Order Suspending Certain Provisions of the Open Meeting Law, the Siting Board conducted its hearings remotely using Zoom videoconferencing. On June 16, 2021, Governor Baker signed into law An Act Extending Certain COVID-19 Measures Adopted During the State of Emergency. St. 2021, c. 20. This Act includes an extension, until April 1, 2022, of the remote meeting provisions of the Governor's March 12, 2020, Executive Order. The remote meeting provisions were further extended by St. 2022, c. 107.

and ROW clearing activities on property values, and the impact of construction-related vehicles on the condition of Copicut Road and adjacent culverts (PCH Tr. at 25-48).

The Siting Board received one timely petition to intervene, filed by Sara Riley, President of the Copicut Neighborhood Association ("CNA"), an unincorporated association. CNA also filed a request for a waiver from the requirement to be represented by an attorney. The Siting Board allowed Copicut's motion to intervene by a ruling dated April 4, 2023 ("Ruling Allowing CNA Intervention"). Intervention was limited to the CNA as an unincorporated association; the individual members of the Association are not intervenors (Ruling Allowing CNA Intervention at 9). The ruling also noted that CNA's status as an intervenor does not necessarily confer on it the right to appeal pursuant to judicial precedent (Ruling Allowing CNA Intervention at 8; citing Save the Bay, Inc. v. Department of Public Utilities, 366 Mass. 667, 675 (1975) ("Save the Bay"); see also Belson v. Thayer & Associates, Inc., 32 Mass.App.Ct. 256, at 256 n.1 (1992) ("As a general rule, unincorporated associations lack the capacity to sue and be sued"). The Siting Board granted CNA's request for a waiver from the requirement that it be represented by counsel. Therefore, Ms. Riley acts on behalf of CNA.

Both the Siting Board and CNA issued one set of discovery each to the Companies. CNA submitted pre-filed testimony[4] of Sara Riley, President of CNA, and Lara Davis, a structural masonry specialist, and the Siting Board issued a set of discovery to CNA regarding said testimony. The Siting Board conducted two days of evidentiary hearings in December 2023. The Companies presented a total of 15 witnesses for cross-examination (Tr. 1, at 8).

CNA presented one witness for cross-examination regarding the Project: Lara K. Davis, architect and founding partner at Limacon Design (Tr. 2, at 178). On December 12, 2023, after the close of hearings, CNA filed a Motion to Include Evidence, which the Companies did not oppose. The Presiding Officer allowed this motion on July 16, 2024. Approximately 235

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[4] CNA Pre-Filed Testimony includes the Affidavit of Lara Davis, Limacon Design, a structural masonry specialist (CNA-PFT-1 (Observations and report on the culvert on Quanipoag Rd. with two appendixes)); and two statements from Sara Riley, President of CNA (CNA-PFT-2 (statements on road conditions)); (CNA-PFT-3 (statements on endangered species)).

exhibits were entered into the evidentiary record, including the Companies' Petitions, and responses to Information Requests and Record Requests. The Companies filed their initial brief on January 8, 2024; and CNA filed its brief the next day. Both the Companies and CNA filed reply briefs on January 22, 2024.

Siting Board staff prepared a Tentative Decision and distributed it to the Siting Board members and all parties for review and comment on April 10, 2026. The parties were given until April 17, 2026 to file written comments.

The Siting Board scheduled a hybrid Siting Board meeting for April 21, 2026, to receive comments, deliberate, and vote on the Tentative Decision. The Siting Board issued a Notice of Siting Board Meeting in English, Spanish, and Portuguese, and provided an opportunity to provide written comments regarding the Tentative Decision. The Presiding Officer sent the Notice to the service list for this proceeding and sent Notice (in English, Spanish, and Portuguese) to the community-based organizations located in Acushnet, Dartmouth, New Bedford, and Fall River.

The Siting Board conducted a hybrid Siting Board meeting to consider the Tentative Decision on April 21, 2026. _____, _____, and _____commented on the Tentative Decision. After deliberation, the Siting Board voted to [approve] the Siting Board Petition, subject to conditions. The Siting Board directed staff to prepare a Final Decision, as set forth below.

II. JURISDICTION

G.L. c. 164, § 69J[5] provides that the Siting Board should approve a petition to construct if the Siting Board determines that the petition meets certain requirements, including that the plans

[5] On November 20, 2024, Governor Healey signed into law An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, St. 2024, c. 239 ("2024 Climate Act" or the "Act"). The 2024 Climate Act establishes a consolidated permit program, including authority under G.L. c. 164, § 69T, for the Siting Board to issue state and local permits for large clean energy infrastructure facilities, and for smaller projects under more limited circumstances. The 2024 Climate Act indicates that "regulations shall apply to all jurisdictional projects submitted to the [Siting Board] on and after July

for the construction of the applicant's facilities are consistent with the policies stated in G.L. c. 164, § 69H, to provide a reliable energy supply for the Commonwealth, with a minimum impact on the environment, at the lowest possible cost, and are consistent with current health, environmental protection, and resource use and development policies of the Commonwealth. See Town of Sudbury v. Energy Facilities Siting Board, 487 Mass. 737, 746-747 (2021) ("Town of Sudbury"). Pursuant to G.L. c. 164, § 69J, a project applicant must obtain Siting Board approval for the construction of proposed energy facilities before a construction permit may be issued by another state agency.

G.L. c. 164, § 69G defines a "facility" to include "a new electric transmission line having a design rating of 115 [kV] or more which is ten miles or more in length on an existing transmission corridor, except [for] reconductoring or rebuilding of transmission lines at the same voltage or a new electric transmission line having a design rating of 69 [kV] or more and which is one mile or more in length on a new transmission corridor. The Companies' proposed New Line consists of a new, 12.1-mile, 115 kV electric transmission line to be constructed along existing ROW between Eversource's Industrial Park Tap in Acushnet, and National Grid's Bell Rock Substation in Fall River (Exh. EN-1, at 1). Therefore, the proposed New Line is a "facility" with respect to Section 69J, and the Project is subject to Siting Board jurisdiction.

The Siting Board requires that an applicant demonstrate that it's proposal meets the following requirements: (1) that additional energy resources are needed (see Section III, below); (2) that, on balance, the proposed project is superior to alternative approaches in terms of reliability, cost, and environmental impact, and in its ability to address the identified need (see Section IV, below); (3) that the applicant has considered a reasonable range of practical facility siting alternatives and that the proposed facilities are sited in locations that minimize costs and environmental impacts while ensuring a reliable energy supply (see Section V, below);

1, 2026." St. 2024, c. 239, §132. On February 27, 2026, the Siting Board promulgated regulations implementing many of the provisions of the 2024 Climate Act; those regulations apply to proceedings initiated July 1, 2026, and afterwards. Therefore, this proceeding is governed by rules in place before the effective date of the 2024 Climate Act provisions and related rules.

(4) that environmental impacts of the Project are minimized and the project achieves an appropriate balance among conflicting environmental concerns as well as among environmental impacts, cost, and reliability (see Section VI, below); and (5) that plans for construction of the proposed facilities are consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth (see Section VII, below).

III. NEED FOR THE PROPOSED PROJECT

A. Standard of Review

The Siting Board reviews the need for proposed transmission facilities to meet reliability, economic efficiency, or environmental objectives. G.L. c. 164, §§ 69H, 69J. When demonstrating the need for a proposed transmission facility based on reliability considerations, a petitioner applies its established planning criteria for construction, operation, and maintenance of its transmission and distribution system. Compliance with the applicable planning criteria can demonstrate a "reliable" system. New England Power Company d/b/a National Grid, EFSB 19-04/D.P.U. 19-77/19-78, at 10 (2021) ("Beverly-Salem"); NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83, at 15 (2019) ("Sudbury-Hudson").

Accordingly, to determine whether system improvements are needed, the Siting Board: (1) examines the reasonableness of the petitioner's system reliability planning criteria; (2) determines whether the petitioner uses reviewable and appropriate methods for assessing system reliability over time based on system modeling analyses or other valid reliability indicators; and (3) determines whether the relevant transmission and distribution system meets these reliability criteria over time under normal conditions and under certain contingencies, given existing and projected loads. NSTAR Electric Company d/b/a Eversource Energy, EFSB 22-03/D.P.U. 22-21, at 15-16 (2024) ("GCEP"); NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-06/D.P.U. 19-142/19-143, at 10 (2022) ("Mid Cape Reliability"); Beverly-Salem at 10. See also Town of Sudbury at 748-749.

When a petitioner's assessment of system reliability and facility requirements is, in whole or in part, driven by load projections, the Siting Board reviews the underlying load forecast. The Siting Board requires that forecasts be based on substantially accurate historical information

and reasonable statistical projection methods that include an adequate consideration of conservation and load management. See G.L. c. 164, § 69J. To ensure that this standard has been met, the Siting Board requires that forecasts be reviewable, appropriate, and reliable. A forecast is reviewable if it contains enough information to allow a full understanding of the forecast method. A forecast is appropriate if the method used to produce the forecast is technically suitable to the size and nature of the company to which it applies. A forecast is considered reliable if its data, assumptions, and judgments provide a measure of confidence in what is most likely to occur. GCEP at 16; Mid Cape Reliability at 10-11; Beverly-Salem at 11.

B. Companies' Description of Project Need

1. Project Purpose

The Eversource and National Grid transmission systems are an integral part of the regional power system delivering electricity to customers throughout New England (Exh. EN-2, at 1-2). To maintain the integrity of this system, the Companies must ensure that adequate transmission capacity exists to meet existing and projected load requirements. As transmission providers, the Companies must also maintain their respective systems consistent with the reliability standards and criteria developed by: (1) the North American Electric Reliability Corporation ("NERC"), which sets the minimum standards for electric power transmission for all North America; (2) the Northeast Power Coordinating Council ("NPCC"); (3) ISO-NE; and (4) the Companies themselves (Exh. EN-2, at 1-2). These reliability standards and criteria expressly require transmission owners, planners, and operators to design and test their systems to withstand representative contingencies through computer simulation of system performance under these contingencies (Exh. EN-2, at 1-2). If the Companies' transmission systems do not have sufficient capability to serve forecasted load under the conditions specified in these reliability criteria, the Companies must plan and implement system additions and upgrades to address the identified reliability issues and remain in compliance with the standards (Exh. EN-2, at 2-1).

2. ISO-NE Needs Assessments

ISO-NE operates the various transmission networks owned by electric utilities in New England as a single transmission system (Exh. EN-2, at 1-2). In its role as the independent system operator of New England, ISO-NE carries out a regional system planning process in which it conducts periodic needs assessments on a system-wide or area-specific basis and develops an annual regional transmission plan using a ten-year planning horizon (Exh. EN-2, at 2-5). Transmission system planning in New England must comply with electric reliability standards established by NERC, NPCC, and ISO-NE (Exh. EN-2, at 1-2).

In 2016, ISO-NE conducted a Needs Assessment study to evaluate the performance of the transmission system serving the Southeast Massachusetts-Rhode Island ("SEMA-RI") area through 2026 ("2026 Needs Assessment") (Exh. EN-2, at 2-6). ISO-NE based its analysis and study assumptions for the 2026 Needs Assessment on the 2015 version of its regional and statewide Forecast Report of Capacity, Energy, Loads, and Transmission ("CELT Report") (Exh. EN-2, at 2-6). The 2026 Needs Assessment revealed network reliability deficiencies throughout the SEMA-RI load zone that could result in thermal overloads, low voltage violations, or voltage collapse following N-1-1 contingencies (Exh. EN-2, at 2-1).[6,7]

The 2026 Needs Assessment evaluated the SEMA-RI load zone by subareas based on transmission topology as well as geographic orientation of facilities. The proposed Project would be located in the "Subarea 4: Industrial Park" study region (Exh. EN-2, App. 2-3, at 33-34). ISO-NE later revised the study area into new geographic subarea groups, with the Project located in Group 2 (Exh. EN-2, App. 2-1, at 29-30). ISO-NE stated that within each new group

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6 N-1 (or "first contingency") is the loss of the power system element (a generation or transmission facility) with the largest impact on system reliability (Exh. EN-2, at vii). An N-1-1 (or "second contingency") refers to the loss of an additional power element after a first contingency, which again, has the largest impact on the system (Exh. EN-2, at vii, 2-1 n.4). See https://www.iso-ne.com/participate/support/glossary-acronyms.

7 Thermal overloads can require dispatchers to shed load to bring the system back in compliance with operating criteria and to prevent equipment damage. Low voltage can cause damage to both substation equipment as well as customer equipment. Voltage collapse creates the potential for widespread cascading outages (Exh. EN-2, at 2-12 n.9).

(shown below in Figure 2), the system needs are interrelated and driven by common system conditions (e.g., dispatch and contingencies) (Exh. EN-2, App. 2-1, at 29). Accordingly, the needs in each subarea group are relatively independent of needs in other groups (Exh. EN-2, App. 2-1, at 29). Group 2 also reflects the identified load pocket[8] relating to the Project which includes Acushnet, Dartmouth, Fairhaven, Fall River, Freetown, Marion, Mattapoisett, New Bedford, Rochester, and Westport in Massachusetts, and Jamestown, Little Compton, Middletown, Newport, Portsmouth, and Tiverton in Rhode Island ("Project Load Pocket") (Exh. EN-2, at 1-2).[9]

The Project Load Pocket includes ten municipalities in Massachusetts and six in Rhode Island—Acushnet, Dartmouth, Fairhaven, Fall River, Freetown, Marion, Mattapoisett, New Bedford, Rochester, and Westport in Massachusetts, and Jamestown, Little Compton, Middletown, Newport, Portsmouth, and Tiverton in Rhode Island (Exh. EN-2, at 1-2, 2-2, Table 2-2). The Project Load Pocket includes locations where National Grid, Rhode Island Energy, and Eversource are electric transmission system owner/operators and are also providers of electric distribution service to their respective customers (Exh. EN-2, at 2-2, Table 2-2). Figure 2 below provides a more detailed map of the Project Load Pocket.

A one-line engineering diagram of transmission lines serving the Project Load Pocket is shown below in Figure 3. The transmission lines that supply the Project Load Pocket come from the west via National Grid's 115 kV N12 and M13 lines running from the Pottersville Switching Station in Somerset to the Sykes Road Substation in Fall River on double-circuit towers (Exh. EN-2, at 2-2 to 2-4). From the east, the Project Load Pocket is served by Eversource's 115 kV 112 and 114 lines, both coming from the Tremont Substation in Wareham (Exh. EN-2, at 2-4).

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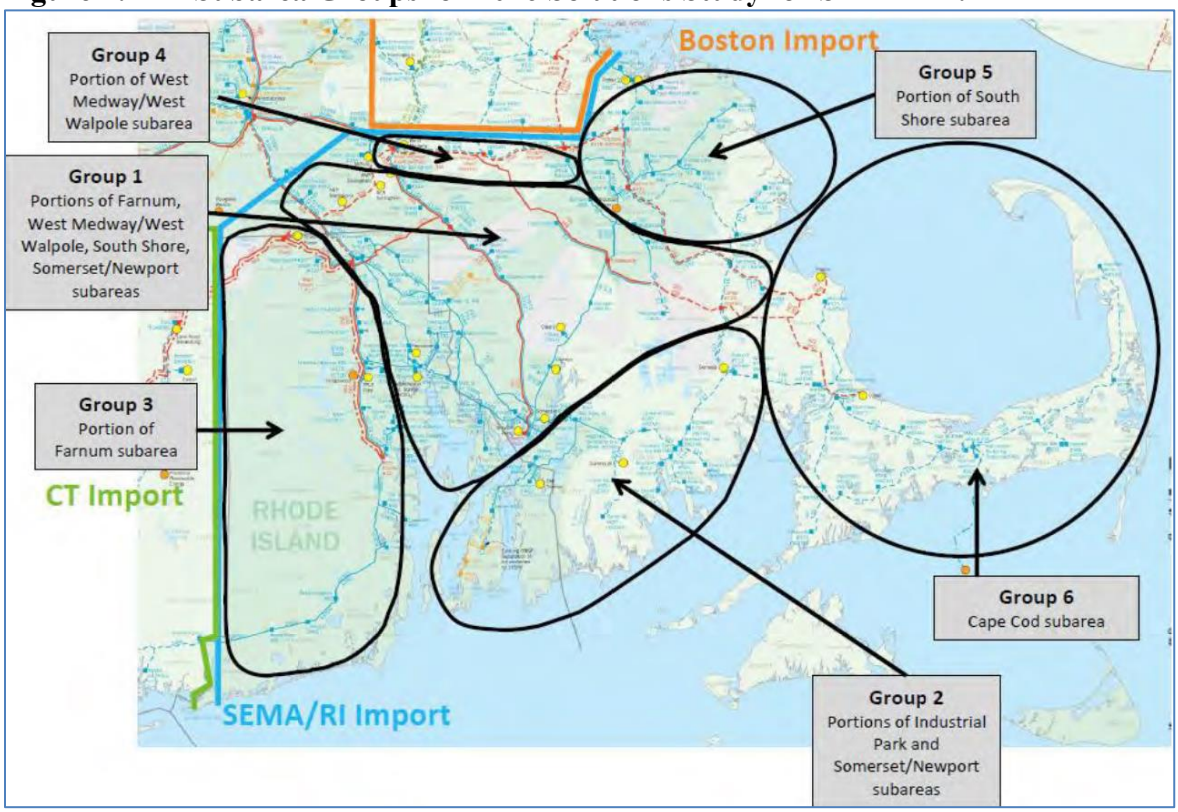
8 A load pocket is an area of the bulk electric power system that requires local generation to meet demand because the transfer capability of the transmission system is insufficient to serve the load in the area. See https://www.iso-ne.com/participate/support/glossary-acronyms.

9 The Company refers to this load pocket addressed by the Project as "Load Pocket." To distinguish the Project's load pocket from the other load pockets in the ISO-NE SEMA-RI studies, this decision uses the term "Project Load Pocket."

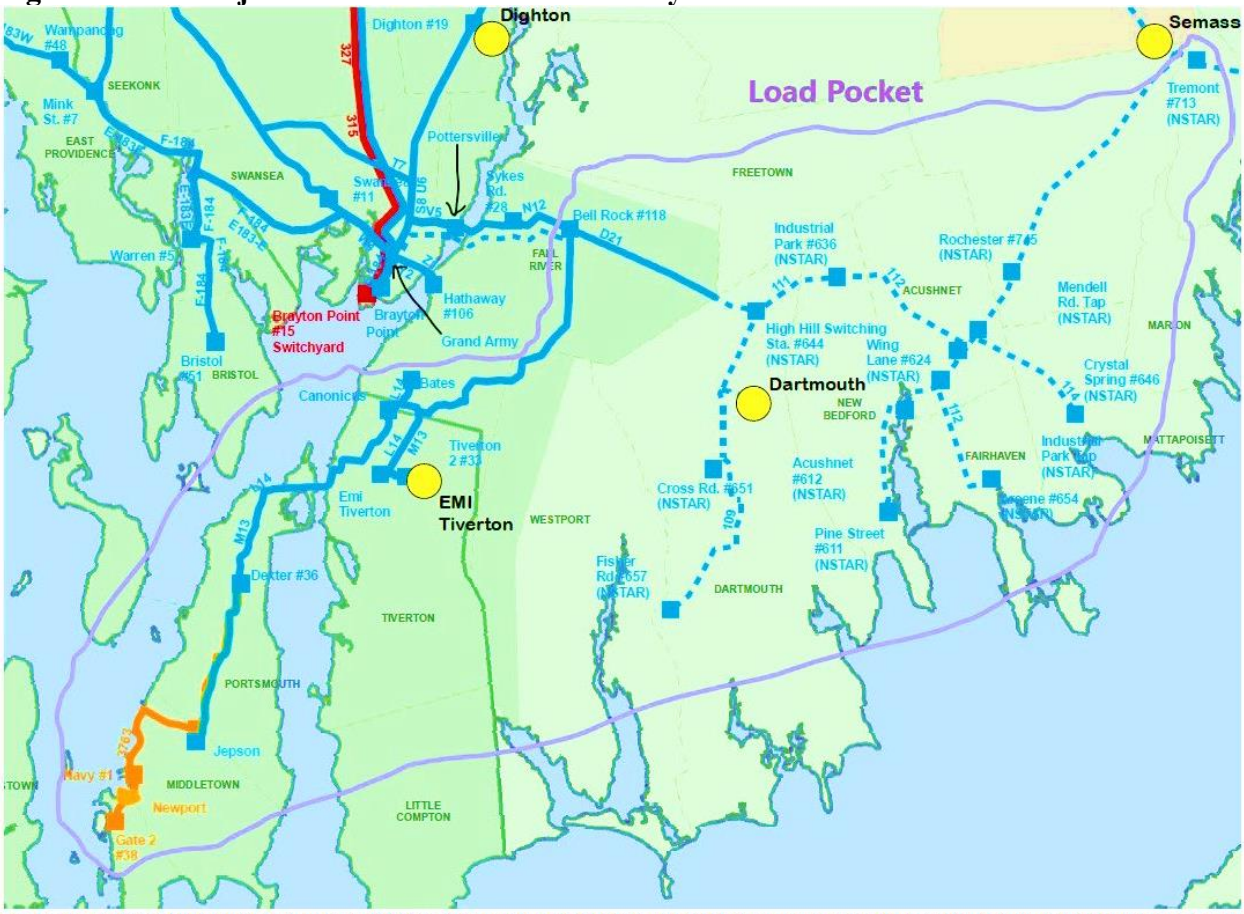
The Project Load Pocket includes 20 substations in total, as shown in Figure 4 below, as well as the transmission system that connects them (Exh. EN-2, at 2-2, Tables 2-1 & 2-2).

Figure 2: Subarea Groups for 2026 Solutions Study for SEMA-RI.



Source: Exh. EN-2, App. 2-1, at 30, Fig. 5-1.
Note: The Project would be located in the Group 2 subarea, which also is the approximate boundary of the Project Load Pocket. See Figure 3 for a more precise map of the Project Load Pocket.

Figure 3: Project Load Pocket and Electric System Elements.

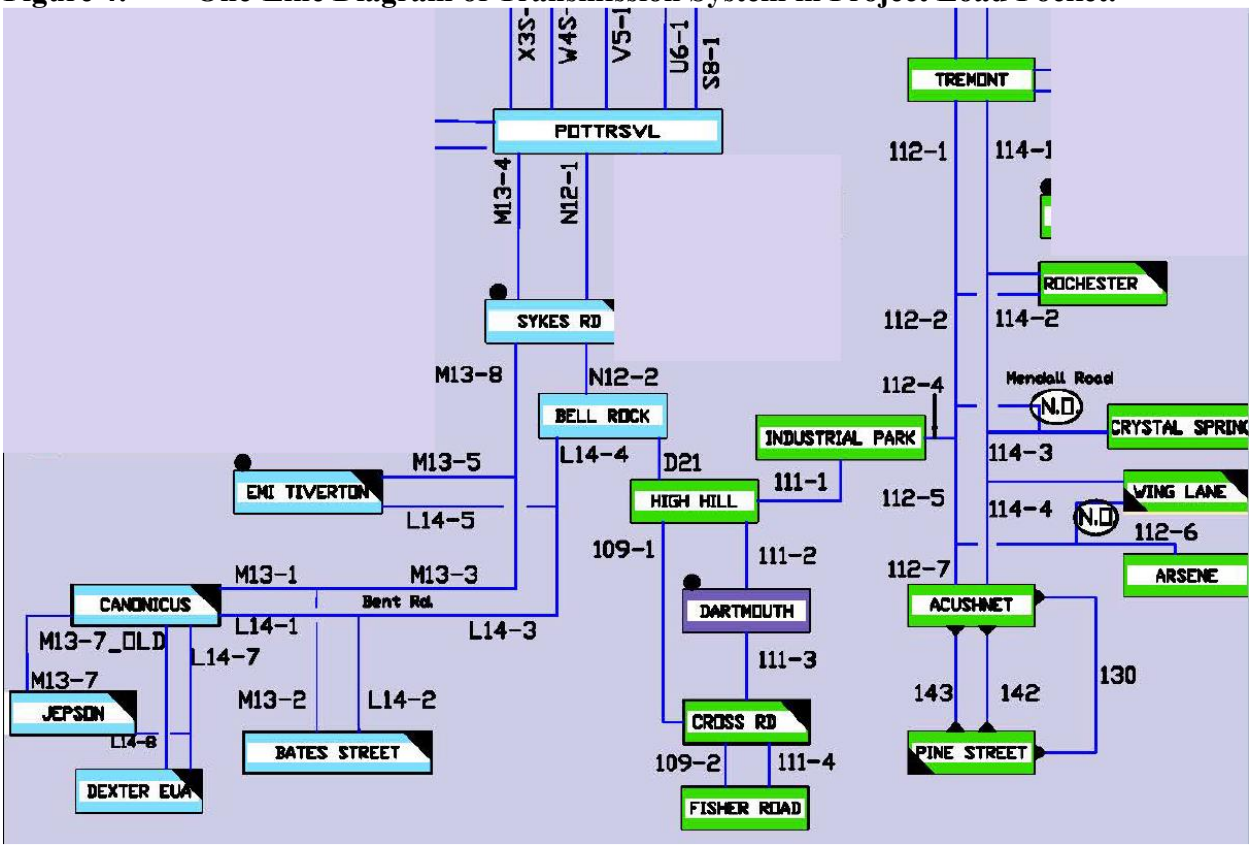


* Color Key: Red 345 kV, Blue 115 kV, Orange 69 kV; Solid lines are owned by National Grid in Massachusetts and RIE in Rhode Island; dashed lines are owned by Eversource.

Source: Exh. EN-2, at 2-4, Fig. 2-2.

Note: The Project Load Pocket is the region bounded by a violet line.

Figure 4: One-Line Diagram of Transmission System in Project Load Pocket.



Source: Exh. EN-2, at 2-3, Fig. 2-1.

The 2026 Needs Assessment evaluated the possibility of thermal overloads and low voltage violations[10] in the Project Load Pocket under both N-1 and N-1-1 contingencies (Exh. EN-2, App. 2-3, at 1-2). To evaluate system performance under N-1 and N-1-1 conditions, the 2026 Needs Assessment evaluated hundreds of different contingency scenarios, such as generator outages, transformer outages, transmission circuits outages, breaker faults, and failure of double circuit towers (such as the existing structures between Pottersville Switching Station and Sykes Road Substation) (Exh. EN-2, App. 2-3, at 29, Table 4-5). The 2026 Needs Assessment showed that various N-1 contingency scenarios (including the loss of double circuit towers and certain generation facilities being out of service) would result in a large portion of

10 A voltage violation is when transmission voltages exceed established high or low limits on the transmission system (Exh. EN-2, at 2-1 n.5).

eastern Rhode Island and southeastern Massachusetts being fed radially off of the 112 and 114 line out of Tremont Substation (Exh. EN-2, App. 2-3, at 45, Table 5-7). These conditions resulted in worst-case thermal overloading on several segments of Lines 111 and 112 as well as low voltage violations at Tremont, Acushnet, Industrial Park, and High Hill substations (Exh. EN-2, App. 2-3, at 45, Table 5-7). Under N-1-1 conditions, both the N-1 thermal and voltage violations in the Industrial Subarea of the Project Load Pocket became more numerous and severe and expanded to include portions of Line 114 between Tremont and Rochester substations (thermal violations) and SEMASS (voltage violations) (Exh. EN-2, App. 2-3, at 86-88, Tables 5-33 & 5-34).

The 2026 Solutions Study, which followed the 2026 Needs Assessment, identified the Project along with a suite of projects proposed to address the identified needs in the Load Pocket (Exh. EN-2, at 2-7, Table 2-3). The Project, as proposed in the Petitions, included extending Line 114 between National Grid's Bell Rock Substation and Eversource's Industrial Park Tap (Exh. EN-1, at 1-2).[11] Further details on the 2026 Solutions Study are presented in Section IV.B, below.

i. 2029 Needs Assessment

Due to a decrease in forecasted peak loads net of energy efficiency ("EE") and solar photovoltaics ("PV") in the 2020 CELT Report (compared with the 2015 CELT Report), ISO-NE initiated a new evaluation of need for projects identified by the 2026 Solutions Study that had not yet started construction ("2029 Needs Update") (Exh. EN-2, at 2-6). The 2029 Needs Update identified both thermal overloads and low voltage issues in the Project Load Pocket under both N-1 and N-1-1 contingencies (Exh. EN-2, at 2-7 to 2-8, Table 2-4 to 2-7).

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[11] National Grid filed a separate petition with the Department in New England Power Company d/b/a National Grid, D.P.U. 22-95 (2026) ("Somerset-Fall River"), under G.L. c. 164, § 72, for separate component of 2026 Solutions Study involving the Project Load Pocket. Somerset-Fall River involves the separation of the N12/M13 Lines, currently on double circuit towers, to separate sets of structures and reconductoring Lines N12 and M13 between the Pottersville and Sykes Road Substations (Exh. EN-2, at 2-9). The Department approved the petition with conditions. Somerset-Fall River at 82-84.

The 2029 Needs Update also identified the potential for consequential[12] loss of 449 megawatts ("MWs") of gross load in the Project Load Pocket area under N-1-1 contingencies, which would affect approximately 161,000 electric customers (Exhs. EN-2, at 2-8).

Table 1: 2029 Needs Update: N-1-1 Thermal Results in Project Load Pocket.

ELEMENT ID	ELEMENT	% LTE LOADING
112-1	Tremont N. to Rochester	138.2
112-2	Rochester to Crystal Tap	137.3
112-3	Industrial Park Tap to Crystal Tap	137.3
112-4	Industrial Park Tap to Industrial Park	155.3
111-1	High Hill to Industrial Park	139.8
L14-3	Bent Rd to Tiverton	120.4
L14-4	Bell Rock to Tiverton	112.8
L14-7	Canonicus to Dexter W	103.6
N12-1	Somerset to Sykes Road	125.9
N12-2	Sykes Rd to Bell Rock	115.2
M13-4	Somerset to Sykes Road	129.8
M13-8	Tiverton to Sykes Road	134.9

Source: Exh. EN-2, at 2-7, Table 2-5.
Notes: LTE = Long-time Emergency; MVA = megavolt ampere. Somerset Substation was renamed Pottersville Substation (see Exh. EN-2, at 2-3, n.6).

Table 2: 2029 Needs Update: N-1-1 Voltage Results in Project Load Pocket.

BUS NAME	BASE KV	VOLTAGE (P.U.)
Jepson	115	0.584
Wing Lane	115	0.760
High Hill	115	0.692
Dexter W	115	0.588
Bell Rock	115	0.659
Industrial Park	115	0.716

Source: Exh. EN-2, at 2-8, Table 2-7.
Notes: Base kV = base kilovolt; p.u. = per unit, which equals percentage divided by 100. The voltage measurement is used for assessing against criteria for voltage collapse occurrences. For the Project Load Pocket, a voltage less than 0.95 p.u. violates Eversource criteria, while voltage less than 0.90 p.u. violates National

12 Consequential load loss refers to load that is no longer served by the transmission system when transmission facilities are automatically removed from service by a protection system operation designed to isolate a fault on the system. See NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 20-67, at 14 n.14 (2022).

> Grid criteria. Also, the 2029 Needs Update assumed that a voltage level less than 0.85 p.u. at one or more area buses would cause voltage collapse (see Exh. EN-2, at 2-8, Table 2-6).

The Companies stated that the consequences of an N-1-1 contingency involving the loss of the N12/M13 lines, preceded by the loss of a third transmission line serving the Project Load Pocket, would take out all sources of transmission supply into the Project Load Pocket, and result in the consequential loss of all load in the Project Load Pocket, totaling 449 MW and affecting approximately 161,000 electric customers (Exh. EN-2, at 2-8). According to the Companies, this load loss could affect approximately 66,000 National Grid and 95,000 Eversource customers (Exh. EN-2, at 2-8). According to ISO-NE, all of the needs identified in the 2029 Needs Update were "time-sensitive," meaning within three years of completion of the study (Exh. EN-2, at 2-8, 2-13).

ISO-NE noted in the 2029 Needs Update that a change in ISO Planning Procedure No. 3 "Reliability Standards for the New England Area Pool Transmission Facilities" ("PP-3 procedure"), was made on September 15, 2017, which was after the completion of the 2026 Needs Assessment (Exh. EN-2, App. 2-2, at 14). The revised PP-3 procedure no longer requires consideration of N-1-1 contingencies for the non-Bulk Power System ("BPS") if the second contingency involves a multiple facility event (such as a double circuit tower loss or breaker failure) (Exh. EN-2, App. 2-2, at 14). Nevertheless, the 2029 Needs Update continued to require evaluation of these N-1-1 contingencies, reasoning that the study was an update to the 2026 Needs Assessment when such requirements were in effect (Exh. EN-2, App. 2-2, at 14).[13]

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[13] In Somerset-Fall River, National Grid noted that ISO-NE's revised planning criteria no longer require utilities to test and design their systems for double-circuit loss contingencies as a second contingency for non-BPS elements. Somerset-Fall River at 16 n.16. National Grid added that NPCC design criteria still require testing for a double-circuit contingency to ensure that it does not affect the BPS. Somerset-Fall River at 16 n.16. However, National Grid noted that in October 2022, ISO-NE redesignated portions of the New England system as no longer being part of the BPS, including the substation buses that were impacted by the Line N12/M13 double circuit tower loss as a second contingency. Somerset-Fall River at 16 n.16. The Department found that the separation of Lines N12/M13 is needed and approved the project with conditions. Somerset-Fall River at 82-84.

3. Additional Eversource and National Grid Needs Analysis

To examine updates in ISO-NE's load forecasts and the inconsistency between the Companies' observed actual loads in the Project Load Pocket vs ISO-NE's CELT forecast, Eversource and National Grid produced their own load forecasts, and then conducted their own modeling of the performance of the transmission system (Exh. EN-2, at 2-9). The Companies examined two different 2031 net peak load forecasts for the Project Load Pocket based on: (1) the 2021 ISO-NE CELT forecast; and (2) a forecast that combined the Companies' internal 2031 forecasts for the substations within the Project Load Pocket (the "Companies' Forecast") (Exh. EN-2, at 2-9). In addition, the Companies evaluated the peak loads actually experienced at substations in the Project Load Pocket in 2020 and 2021, on a weather-normalized basis (Exh. EN-2, at 2-9).

Table 3 below summarizes the thermal violations in the Companies' analyses for: (1) the 2031 ISO-NE forecast load based on the 2021 ISO-NE CELT forecast; (2) the 2020 weather-adjusted peak load; (3) the 2021 weather-adjusted peak load; and (4) the Companies' 2031 internal forecast load (Exh. EN-2, at 2-11). According to the analyses, thermal overloads would occur on segments of Eversource's 115 kV Lines 111 and 112 under N-1-1 contingency conditions for each load scenario (Exh. EN-2, at 2-11).

Table 3: N-1-1 Thermal Overloads based on ISO-NE and Companies' Forecasts.

Overloaded Element	LTE Rating (MVA)	Thermal Loadings (%LTE)			
		2031 ISO-NE Forecast (based on 2021 CELT)	2020 Weather-Adjusted Load	2021 Weather-Adjusted Load	2031 Companies' Forecast
		Load Pocket 403 MW	Load Pocket 528 MW	Load Pocket 514 MW	Load Pocket 555 MW
Industrial Park-Industrial Park Tap 115-kV (Line 112)	246	114%	148%	146%	N/A
Industrial Park- High Hill 115-kV (Line 111)	243	107%	132%	132%	N/A

Source: Exh. EN-2, at 2-11 to 2-12, Table 2-12.
Note: The thermal overloads for the 2031 Companies' Forecast scenario show as "N/A" because the voltage collapses in the Load Pocket and the power flow case does not produce a result in the Companies' modeling (Exh. EN-2, at 2-12).

Table 4 provides the voltage results in the Companies' analyses for the same four load forecasts shown in Table 3 above under N-1-1 conditions (Exh. EN-2, at 2-12). As shown, while there were acceptable voltages for the 2031 ISO-NE forecast load, and for the Companies' 2020 and 2021 weather-adjusted peak loads, the Companies' 2031 forecast load indicated that voltage collapse in the Project Load Pocket was a substantial risk (Exh. EN-2, at 2-12).

Table 4: N-1-1 Voltage Results based on ISO-NE and Companies' Forecast Scenarios.

Load Pocket Buses	2031 ISO-NE Forecast (based on 2021 CELT)	2020 Weather-Adjusted Load	2021 Weather-Adjusted Load	2031 Companies' Forecast
	Load Pocket 403 MW	Load Pocket 528 MW	Load Pocket 514 MW	Load Pocket 555 MW
115-kV Bus Voltage	Acceptable	Acceptable, but approaching voltage collapse	Acceptable, but approaching voltage collapse	Voltage collapse

Source: Exh. EN-2, at 2-12, Table 2-13.

The Companies conducted additional sensitivity analysis to determine the minimum load levels within the Project Load Pocket under N-1-1 conditions that would yield low voltages and voltage collapse, also known as critical load levels ("CLLs") (Exh. EN-2, at 2-12; Tr. 1, at 80). Based on the 2020 and 2021 weather-adjusted loads, the low voltage CLL is in the range of 526-534 MW, and the voltage collapse CLL is in the range of 549-555 MW (Exh. EN-2, at 2-12). The 2020 weather-adjusted peak load shows the recorded Net Peak Load at 528 MW, which the Companies state is cause for concern regarding voltage levels (Exh. EN-2, at 2-11, Table 2-11). The Companies claim the Project Load Pocket could reach the load levels at which there will be widespread voltage collapse following an N-1-1 contingency in the year 2025-2026 (Exh. EFSB-N-1).

As illustrated in Table 5, there were significant differences between the total loads forecasted by ISO-NE and the Companies, mostly attributable to load projections in the Eversource portion of the Load Pocket (Exh. EN-2, at 2-9).

Table 5: Load Forecast Scenarios.

Load Scenario	Eversource	National Grid	Total Load
2021 CELT 2031 Forecast	186	217	403
Companies' 2031 Forecast	319	236	555

Source: Exh. EN-2, at 2-9, Table 2-9.

As shown in a detailed breakdown of the net load forecasts for the Project Load Pocket in Table 6, the ISO-NE CELT forecast assumed higher peak-hour contributions from both EE and PV distributed generation than the Eversource 2031 forecast (Exh. EN-2, at 2-9).

Table 6: Eversource and ISO-NE 90/10 Forecast Comparisons.

Eversource					ISO-NE				
Year	Gross Load	EE	PV	Net Load	Year	Gross Load	EE	PV	Net Load
2022	298.7	-4.2	-3.5	290.9	**2022**	298	-30.7	-42.6	224.7
2023	301.3	-4.8	-4.0	292.5	**2023**	299.9	-32.6	-47.8	219.5
2024	303.3	-5.4	-4.1	293.7	**2024**	301.9	-34.4	-51.6	215.9
2025	305.1	-6.0	-4.1	295	**2025**	304.6	-37.9	-55.4	211.3
2026	307.1	-6.6	-4.1	296.4	**2026**	290.6	-39.3	-59.1	192.2
2027	309.3	-7.2	-4.1	298	**2027**	292.9	-41.9	-62.1	188.9
2028	311.7	-7.8	-4.1	299.8	**2028**	295.2	-44.0	-64.2	187.1
2029	314.2	-8.4	-4.1	301.7	**2029**	299.7	-45.8	-66.2	187.7
2030	316.9	-9.0	-4.1	303.8	**2030**	303.1	-47.1	-68.2	187.8
2031	318.7	-9.0	-4.1	305.6	**2031**	304.1	-47.7	-70.2	186.2

Source: Exh. EN-2, at 2-10, Table 2-10.

According to the Companies, the two main reasons for the disparity were: (1) the timing of the assumed peak load, which affects the assumed levels of output from PV distributed generation in the Load Pocket; and (2) certain simplifying assumptions made by ISO-NE regarding the physical location of PV resources and EE measures (Exh. EN-2, at 2-10). The Companies noted that ISO-NE examines peak load at the hour of the regional system peak load, i.e., the hour ending 17:00 or 18:00 (Exh. EN-2, at 2-10). Based on this timing, ISO-NE assumed that the output of PV distributed generation was 26 percent at the time of peak (Exh. EN-2, at 2-10). However, Eversource stated that it uses actual SEMA-RI coincident peak load values from prior years, which occurred at the hour ending 19:00, resulting in a substantially lower peak PV distributed generation output of approximately nine percent (Exh. EN-2, at 2-10).

Regarding assumptions for the location of PV and EE, the Companies indicated that ISO-NE does not have locational data for EE, future PV systems, and PV systems smaller than 1.0 MW (Exh. EN-2, at 2-10). Instead, ISO-NE allocates statewide levels on a bus-by-bus basis proportional to the gross load at the buses to determine distributed generation (Exh. EN-2, at 2-10). The Companies also stated that ISO-NE allocates statewide projections of EE similarly

on a bus-by-bus basis (Exh. EN-2, at 2-10). According to the Companies, these scenarios led to higher projected levels of PV and EE penetration in the Load Pocket modeled by ISO-NE than those of Eversource (Exh. EN-2, at 2-10).

While the discrepancy was not as stark, the Companies represented that the National Grid and ISO-NE 2031 Load Pocket forecasts differed for similar reasons, including National Grid's more granular forecasts of peaks in specific load zones and the use of company-specific information and methodologies for forecasting EE, solar PV, electric vehicles, electric heat pumps, energy storage, and company-run demand response programs (Exh. EN-2, at 2-10 to 2-11). Like Eversource, National Grid assumed PV contribution based on a later anticipated hour of peak load (18:00 in 2020 and 19:00 in 2021) (Exh. EN-2, at 2-11). This led to a PV contribution estimation of 16 percent nameplate capacity for National Grid versus 26 percent by ISO-NE (Exh. EN-2, at 2-11). Moreover, the Companies argue that a comparison of ISO-NE forecasts with recent load data confirmed that the ISO-NE 2020 CELT forecast was not a good predictor of peak loads within the Project Load Pocket (Exh. EN-2, at 2-11).

C. Positions of the Parties

CNA did not provide any arguments on brief regarding Project need.

D. Analysis and Findings on Need

In the 2026 Needs Assessment, ISO-NE identified reliability needs within the SEMA-RI area, including deficiencies in the Project Load Pocket. The Project area is served from the east by 115 kV lines extending from Eversource's Tremont Substation and from the west by 115 kV lines extending from National Grid's Pottersville Substation. The record shows that the Companies must address the potential for post contingency thermal overloads and low voltages in the Project Load Pocket to comply with applicable national and regional reliability standards and to provide a reliable supply of electricity to the approximately 161,000 total customers in the Project Load Pocket. ISO-NE produced the 2029 Needs Update to determine if previously identified solution components which had not been built were still needed in the SEMA-RI study area for the year 2029. The 2029 Needs Update demonstrated that under both N-1 and N-1-1

contingencies, there were still thermal and voltage violations under peak load conditions in the study area, and the existing transmission system would be insufficient to reliably supply customers under these contingencies.

To confirm whether ISO-NE's revised load forecasts aligned with the Companies' actual loads, Eversource and National Grid analyzed the performance of the transmission system under two additional 2031 load forecast scenarios, based on their more granular substation-level forecasting methodology. The Companies modeling analysis demonstrated that thermal violations and low voltage conditions would occur on the 115-kV Lines 111 and 112 under all forecast scenarios including the ISO-NE 2031 forecast; the Companies' 2020 and 2021 weather-adjusted peak loads; and the 2031 Companies' Forecast. The record shows that the Project would solve the reliability needs identified by both ISO-NE and the Companies, thus ensuring reliability in the Project Load Pocket. In addition, the record shows that the Project would add additional reliability benefits to the Load Pocket.

The record shows that there is a discrepancy between the Companies' Forecasts for the Load Pocket and ISO-NE's. The discrepancy reflects: (i) whether the peak load was modeled at system-wide or SEMA-RI coincident peak conditions; and (ii) differences in methodology for estimating load reducing EE and PV resources. As a result of these differences, the Companies argue that their forecasts were more relevant to anticipating needs in the Project Load Pocket. The Siting Board has previously found ISO-NE's CELT Report-based forecasts reviewable (see e.g., NSTAR Electric Company d/b/a Eversource Energy, EFSB 16-02/D.P.U. 16-77, at 13 (2018); NSTAR Electric Company d/b/a Eversource Energy, EFSB 15-04/D.P.U. 15-140/15-141, at 17-18 (2018) ("Woburn-Wakefield"); NSTAR Electric Company d/b/a Eversource Energy, EFSB 15-04/D.P.U. 15-140/15-141, at 16-17 (2018) ("Walpole-Holbrook")); however, the record shows that the Companies' load pocket level forecasts can differ significantly from the forecast extrapolated from regional, system-wide forecasts under ISO-NE's methodology.

The Siting Board notes that ISO-NE's CELT Reports are primarily designed for forecasting regional and statewide trends rather than local trends. The record shows that, in recent years, the Companies' own substation-level forecasts have been more accurate than the ISO-NE forecasts in predicting actual loads for the Project Load Pocket. Therefore, the Siting

Board concludes that, for the Project Load Pocket, the Companies' Forecasts are more suitable than the forecast derived from ISO-NE's CELT Report. The Siting Board finds that the Companies have provided sufficient information to permit an understanding of their forecasting method, and that their forecast is reviewable, appropriate, and reliable for use in this proceeding to evaluate the Companies' assertion of need. The Siting Board finds that proposed transmission facility is needed for reliability, and that the need is immediate.

The record shows that a significant factor underlying both ISO-NE's and the Company's assessment of need is the use of a double circuit tower contingency involving the simultaneous loss of both the N12 and M13 lines between Pottersville Switching Station and Sykes Road Substation. At the time of the initial ISO-NE 2026 Needs Assessment, this contingency was required by ISO-NE planning procedures given the fact that it represented one of the most consequential contingencies for many elements of the transmission system in the Project Load Pocket (i.e., a worst-case scenario). The number and severity of Project Load Pocket thermal and voltage violations identified by ISO-NE, and the immediate need for remedies, resulted in ISO-NE's determination that the need was "time-sensitive" in accordance with NERC TPL Standards, and that transmission owners "should bring the identified projects to completion" (Exh. EN-2, App. 2-2, at 15, 31-32).

Both ISO-NE and the Company continued to rely on the double circuit contingency in the need and solution studies that followed the initial ISO-NE 2026 Needs Assessment. The record shows that applicable reliability planning standards required the use of the double circuit contingency until 2022, at which time ISO-NE redesignated portions of its transmission system as no longer being part of the BPS, and therefore, no longer subject to required double circuit contingency testing. Given the scale and urgency of the identified need in the Project Load Pocket, and the timing of when ISO-NE established new transmission planning policies and system classifications, the Siting Board finds that the use of the double circuit contingency by both ISO-NE and the Companies appropriate in the need studies evaluated in this proceeding.

IV. ALTERNATIVE APPROACHES TO MEETING THE IDENTIFIED NEED

A. Standard of Review

G.L. c. 164, § 69J requires a project proponent to present alternatives to the proposed facility, which may include: (1) other methods of transmitting or storing energy; (2) other sources of electrical power; or (3) a reduction of requirements through load management.[14] In implementing its statutory mandate, the Siting Board requires a petitioner to show that, on balance, its proposed project is superior to such alternative approaches in terms of cost, environmental impact, and ability to meet the identified need. In addition, the Siting Board requires a petitioner to consider reliability of supply as part of its showing that the proposed project is superior to alternative project approaches. SouthCoast Wind Energy LLC, EFSB 22-04/D.P.U. 22-67/22-68 (2024) at 39 ("SouthCoast Wind"); GCEP at 30; Mid Cape Reliability at 26-27; Beverly-Salem at 17.

B. Companies Analysis of Alternative Approaches to Meet Need

The Companies evaluated alternative means of addressing the identified need for the Project (Exh. EN-2, at 1-2). The Companies developed several alternatives: (1) the proposed Project and related components; (2) a "No-Action Alternative"; (3) an Undersea Cable Alternative based on Alternative 1 identified in the ISO-NE's 2026 Solutions Study; (4) a Synchronous Solution consisting of the reconductoring of two transmission lines and installation of two 30 MVAR synchronous condensers; and (5) traditional non-transmission alternatives ("NTAs") such as new generation, energy efficiency, solar and battery storage, demand response programs, and distributed generation (Exh. EN-2, at 1-2). Through this assessment, the Companies concluded that the Project is the superior alternative that, on balance, best meets the identified need at the lowest possible cost with a minimum impact to the environment (Exh. EN-2, at 1-2).

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[14] G.L. c. 164, § 69J also requires an applicant to present "other site locations." Compliance with the requirement is evaluated in Section V, below.

1. Proposed Project and Related Components

The proposed Project is a 12.1 mile, primarily overhead, 115 kV transmission line in existing ROW between the existing Eversource Industrial Park Tap in Acushnet and the National Grid Bell Rock Substation in Fall River (Exh. EN-2, at 1-1). The New Line would effectively extend the existing Eversource Line 114, which runs from Tremont Substation in Wareham to the Acushnet Substation (Exh. EN-2, at 1-1 n.1).[15] The Project would include additional control upgrades and ancillary work at the Acushnet Substation, Bell Rock Substation, and the Tremont Substation (Exh. EN-2, at 1-1).

2. No-Action Alternative

Under the No-Action Alternative, the Companies would not construct any new facilities to address transmission reliability needs, and the current transmission system would remain unchanged (Exh. EN-2, at 3-1). As discussed above, in its 2029 Needs Update, ISO-NE identified a set of time-sensitive thermal, voltage, and contingent loss-of-load issues within the Project Load Pocket, and confirmed that certain transmission upgrades, including the Project, are needed to address these issues (Exh. EN-2, at 3-1). The Companies also confirmed that the Project is needed to address the potential for thermal overloads on two 115-kV transmission lines, and to avoid voltage violations and voltage collapse across the Project Load Pocket under certain N-1-1 contingencies (Exh. EN-2, at 3-1). Because the No-Action Alternative does not meet the identified need and would not satisfy applicable transmission planning reliability criteria, the Companies did not consider it further (Exh. EN-2, at 3-1).

3. Transmission Alternatives

a. ISO-NE 2026 Solutions Study

To solve the consequential load loss and voltage collapse issues in the Project Load Pocket, as well as other thermal and voltage issues, ISO-NE developed four solution sets (made

[15] The New Line's connection to Line 114 at the Industrial Park Tap is approximately 2.4 miles northwest of Line 114's current southern terminus at the Acushnet Substation (Exh. EN-2, at 3-5 to 3-6, Fig. 3.4).

up of a combination of solutions referred to subsequently in this decision as ISO-NE Alternatives or Alt #1-4), each of which would resolve the identified need in the Project Load Pocket (Exh. EN-2, at 31 to 3-2).

Table 7: ISO-NE 2026 Solution Sets for the Project Load Pocket.

ID	Solution Components	ISO-NE Alt #1 & Alt #2	ISO-NE Alt #1 & Alt #3	ISO-NE Alt #1 & Alt #4	ISO-NE Alt #2/#3 & Alt #4
1	Install a new line from Bristol substation to a new switching station named Boyd's Lane in Portsmouth, RI (approximately 5.0 miles). Includes cost for Horizontal Directional Drilling (HDD) submarine cable across Mt. Hope Bay.	X	X	X	
2	Bristol substation upgrades and add new 115 kV breaker.	X	X	X	
3	Install new 115 kV station with a 5-breaker ring at Boyd's Lane in Portsmouth, RI. Terminate new 115 kV line & loop L14/M13 in/out of the station.	X	X	X	
4	Reconductor F-184 115 kV line from Merriman Junction to Warren to Bristol (5.1 miles).	X	X	X	
5	Separate N12/M13 DCT & reconductor N12 & M13 between Somerset and Bell Rock (~3.5 miles).	X			X
6	Install new 115 kV line (UG-1.7 mi and OH-1.8 mi) between Somerset and Bell Rock (~3.5 miles). Add circuit breaker at Somerset for new line.		X		
7	Install new breaker in series with the N12/D21 tie breaker and upgrade the D21 Line switch upgrade at Bell Rock.				X
8	Reconductor N12 & M13 (No DCT Split) between Somerset and Bell Rock (~3.5 miles).			X	
9	Install a third breaker in a bay to terminate Line 114 at Bell Rock.			X	X
10	Extend Line 114 – Eversource/NGRID border to Bell Rock (~4.2 miles).			X	X
11	Extend Line 114 – Industrial Park Tap to Eversource/NGRID border (~7.9 miles).			X	X
12	Install capacitors at Bell Rock, High Hill and Wing Lane.			X	X

Source: Exh. EN-2, App. 2-1, at 39-40, Table 5-3.

Note: ISO-NE also identified five additional solution components that are common to each of the four solution sets above, and therefore, are not shown in the table.

The ISO-NE 2026 Solution Study relied primarily on construction cost estimates to compare the alternatives above and select a preferred solution set for the Project Load Pocket (Exh. EN-2, App. 2-1, at 53). Table 8 shows the cost estimates in 2016 dollars for the alternatives. If costs among alternatives solutions are similar, ISO-NE also considers:

- Expected ease of permitting (e.g., environmental, siting, etc.).
- Ease of constructability (during the construction phase).
- Fewer and shorter construction outages (number and length of outages).
- Reduced environmental impact.
- Reduced abutter impact.
- Overall system performance.
- Shorter length of time to construct or earlier expected in-service date.

Source: Exh. EN-2, App. 2-1, at 53.

Table 8 Cost Estimates for ISO-NE Transmission Alternatives in 2016 Dollars.

Transmission Alternatives	Cost Estimates (million)
ISO-NE Alt #1 & #2	$192.4
ISO-NE Alt #1 & #3	$200.4
ISO-NE Alt #1 & #4	$197.5
ISO-NE Alt #2/3 & #4	$124.5

Source: Exh. EN-2, App. 2-1, at 55-56, Table 7-2.

Based on the significantly lower cost, ISO-NE selected ISO-NE Alternative 2 (separate and reconductor Lines M13 and N12 between Pottersville and Sykes Road Substations) and ISO-NE Alternative 4 (extend Line 114 from Industrial Park Tap to Bell Rock Substation) as the preferred solution set to address the needs of the Project Load Pocket (Exh. EN-2, at 3-2). This solution set includes the proposed Project (shown in rows 10 and 11 of Table 7) (Exh. EN-2, App. 2-1, at 39, Table 5-3).

b. Companies' Proposed Transmission Alternatives

Following the 2029 Needs Update, the Companies revisited the alternatives presented for the 2026 Solutions Study to determine whether any should be presented as an alternative to the

Project (Exh. EN-2, at 3-2). The Companies noted that any solution set that does not include the Project must necessarily include ISO-NE Alternative #1 (install new undersea cable and switching station in Rhode Island), referred to as the "Undersea Cable Alternative" in this section (Exh. EN-2, at 3-2). In this respect, the Undersea Cable Alternative can be regarded as an alternative to the Project (Exh. EN-2, at 3-2). However, the Companies also revisited a potential solution which ISO-NE considered and dismissed early in its 2026 Solutions Study process - addressing the thermal violations by increasing the capacity of the projected overloaded transmission lines (Lines 111 and 112), and the voltage issues by installing a dynamic reactive device within the Load Pocket - which the Companies designated as the "Synchronous Solution" (Exh. EN-2, at 3-5).[16] In developing transmission alternatives to the Project, the Companies narrowed the focus of their review to the Undersea Cable Alternative and the Synchronous Solution, that offered a targeted and direct substitute for the Project as compared to the full suite of transmission solutions studied by ISO-NE to address the full needs of the Project Load Pocket (Exh. EN-2, at 3-2).[17]

i. Undersea Cable Alternative

The Companies represented that an Undersea Cable Alternative would include three main components: (1) construction of a new switching station in Portsmouth, Rhode Island; (2) an approximately 5.0-mile new 115 kV underground cable from Bristol Substation to the new

16 The 2026 Solutions Study did not evaluate the use of synchronous condensers as a dynamic reactive device, but it did evaluate the use of MVAR capacitors, which also provide reactive power compensation and thereby effectively mitigate voltage instability on the system (Exh. EN-2, at 3-5 to 3-6).

17 Given the narrow focus of the Companies' analysis on direct substitutes for the Project in solving the need in the Project Load Pocket, the Companies' analysis of transmission solution alternatives included fewer transmission components than did ISO-NE's. Therefore, the Companies' transmission solution alternatives (including the Project) reflected lower costs than the ISO-NE Solution Studies which addressed all needs in the Project Load Pocket (Exh. EN-2, at 3-2). While the costs are not directly comparable, the Companies' and ISO-NE's cost analyses are consistent in showing that the Project is a least-cost transmission solution.

switching station, including a 4,300 linear foot undersea segment spanning Mount Hope Bay; and (3) reconductoring of 5.1 miles of the existing 115 kV F-184 line from Merriman Junction Tap to Bristol Substation (Exh. EN-2, at 3-2 to 3-3). The Companies explained that construction of a new switching station[18] on a currently underdeveloped site would result in permanent land use impacts and that horizontal directional drilling ("HDD") beneath Mount Hope Bay would require special oversized and overweight reel handling and construction equipment (Exh. EN-2, at 3-4). Additionally, the alternative would involve underground installation in the streets of a medium density residential area, which the Companies stated would have temporary impacts from traffic restrictions and construction noise (Exh. EN-2, at 3-4).

Table 9 shows the cost estimate of the Undersea Cable Alternative based on the cost estimate from the 2026 Solution Study, alongside the cost estimates for the Project and Synchronous Solution (Exh. EN-2, at 3-3 to 3-6). The Undersea Cable Alternative would cost $102.3 million, almost doubling that of the Project at $52.7 million (Exh. EN-2, at 3-4). In addition, the Undersea Cable Alternative has greater environmental impacts (i.e., building a new switching station on undeveloped land), which the Companies stated runs counter to their objectives (Exh. EN-2, at 3-4). Based on the above, the Companies concluded that the Project is a superior solution relative to the Undersea Cable Alternative when balancing considerations of reliability, costs, and environmental impacts (Companies Brief at 51; Exh. EN-2, at 3-4).

Table 9 Cost Estimates for Companies Transmission Alternatives in 2016 Dollars.

Transmission Alternatives	Cost Estimates (million)
Proposed Project	$52.7
Companies' Undersea Cable Alternative (ISO-NE Alternative #1)	$102.3
Companies' Synchronous Solution	$60.2

Source: Exh. EN-2, at 3-4, 3-6.

ii. Synchronous Solution

[18] The Companies use the term switching station and substation interchangeably when referring to the hypothetical new switching station that would need to be built in Portsmouth, Rhode Island for the Undersea Cable Alternative.

There were three main components to the Synchronous Solution: (1) reconductoring 4.1 miles of the 115 kV 112 Line from Industrial Park Tap to Industrial Park Substation; (2) reconductoring 2.4 miles of the 115 kV 111 Line from Industrial Park Substation to High Hill Switching Station; and (3) installing two 30 MVAR synchronous condensers[19] at National Grid's 115 kV Dexter Substation (Exh. EN-2, at 3-5).

The Companies considered four possible locations for the synchronous condensers: Eversource's High Hill and Industrial Park Substations in Massachusetts and National Grid's Dexter and Tiverton Substations in Rhode Island (Exh. EN-2, at 3-5). The Companies indicated that voltage support would be most effective located downstream of the Load Pocket; therefore, the Companies further evaluated locations close to the Dexter and Tiverton Substation sites (Exh. EN-2, at 3-5). The criteria evaluated by the Companies included availability of space within or in proximity to the substation sites, ease of interconnection, and potential environmental impacts (Exh. EN-2, at 3-5). While the Companies stated that they would not encounter space constraints at either site, there would be challenges to provide relay protection at the Tiverton Substation site (Exh. EN-2, at 3-6). Consequently, the Companies selected Dexter Substation as their preferred location for the synchronous condensers (Exh. EN-2, at 3-6). The Companies explained that load flow modeling demonstrated that the addition of two 30 MVAR synchronous condensers would address the voltage concerns (Exh. EN-2, at 3-6). The Companies added that the existing fence line would need to be expanded and trees would need to be cleared, with potential impacts to wetlands, for the synchronous condensers to be installed at the Dexter Substation (Exh. EN-2, at 3-6).

The Companies compared the reliability of the proposed Project and the Synchronous Solution and concluded that the proposed Project was superior (Exh. EN-2, at 3-7). The Companies stated that the Project had several attributes that made it a more reliable alternative than the Synchronous Solution: (1) the Project is a static device, free of moving parts, and has

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[19] Synchronous condensers are used to provide voltage support, supplying reactive power to the transmission network to regulate voltage (Exh. EN-2, at 3-5). They strengthen the system in terms of short circuit current and provide inertia to improve system stability (Exh. EN-2, at 3-5).

limited maintenance requirements; and (2) the Project would add a new transmission path which would reduce risks associated with transmission line maintenance for the other 115 kV lines that service the Project Load Pocket and help facilitate the interconnection of new wind and solar generation, battery storage, and other distributed energy resources (Exhs. EN-2, at 3-7; EFSB-PA-1).

The Companies also compared the potential environmental impacts of the Project and the Synchronous Solution (Exh. EN-2, at 3-7). Both solutions would be located within existing overhead transmission line ROWs in undeveloped or low-density residential areas (Exh. EN-2, at 3-7). However, the Project would require some additional clearing to accommodate the New Line while the reconductoring portion of the Synchronous Solution would not (Exh. EN-2, at 3-7). To accommodate the synchronous condensers in the Synchronous Solution, the Companies would have to clear trees around Dexter Substation and potentially disturb freshwater wetlands located around the perimeter of the substation (Exh. EN-2, at 3-7). As shown in Table 9, supra, the Synchronous Solution would cost $60.2 million, which is $7.5 million more than the $52.7 million estimated cost of the Project (Exh. EN-2, at 3-6).

Given the above, the Companies assert that the Project is superior to the Synchronous Solution when balancing considerations of reliability, cost, and environmental impacts (Exh. EN-2, at 3-8).

4. Non-Transmission Alternatives

In conducting their NTA analysis, the Companies considered the minimum level of resources necessary to resolve the reliability needs for the Project Load Pocket under N-1-1 contingency conditions at the 2020 peak net load level of 493 MW (Exh. EN-2, at 3-8). The Companies stated that the minimum level of energy injection required at the 2020 peak net load level is 85 MW (Exh. EN-2, at 3-8). However, the Companies would require a higher level of energy injections to resolve the needs identified based on the Companies' 2031 peak load forecast of 555 MW (Exh. EN-2, at 3-8). The Companies claim 147 MW of injected energy would be necessary to resolve the projected transmission reliability need based on the Companies' 2031 peak load forecast (Exh. EFSB-PA-6).

The Companies stated NTAs would have to be located at or near the High Hill or Bell Rock Substations (Exh. EN-2, at 3-8). According to the Companies, these locations would provide the optimum thermal and voltage performance for the Load Pocket during system contingency events (Exh. EN-2, at 3-8). Because Bell Rock Substation lies within the Southeast Massachusetts Bioreserve, development in the area surrounding the Bell Rock Substation would be significantly restricted according to the Companies (Exh. EN-2, at 3-8). Accordingly, the Companies chose the High Hill Switching Station as optimal location for the hypothetical interconnection of NTAs (EN-2, at 3-8). The Companies analyzed whether demand response or BESS/PV could provide the required energy injection (Exh. EN-2, at 3-9).

a. Active Demand Response and Energy Efficiency

The Companies claimed that neither active demand response (load curtailments with onsite generation), nor energy efficiency could mitigate the needs addressed by the Project at the scale that would be required for those resources (Exh. EN-2, at 3-9). The Companies forecast that by 2029, energy efficiency would reduce the area load by 58 MW or eight percent of gross area load (Exh. EN-2, at 3-9). The Companies estimated that there would need to be an additional 85 MW of demand savings, beyond the existing planned 58 MW of demand savings (Exh. EN-2, at 3-9). The Companies argue this amount of active demand response or incremental energy efficiency is not available in the timeframe or scale necessary to substitute for the Project (Exh. EN-2, at 3-9).

b. Battery Energy Storage and Photovoltaics

The Companies assessed using battery energy storage systems ("BESS") or PV power as an NTA, and the Companies assert that the NTA would need to be able to dispatch 14 hours in a daily load cycle to address an N-1-1 contingency (Exh. EN-2, at 3-9). The Companies explained that a duration of 14 hours was longer than the capability of solar PV to provide power due to its intermittent nature (Exh. EN-2, at 3-9). In addition, the Companies represented that the use of BESS alone would not be possible due to the lack of transmission capacity available in the Project Load Pocket to charge the BESS in off-peak hours (Exh. EN-2, at 3-9).

The Companies stated that when combined, PV and energy storage has the potential to overcome the technical limitations each technology faces independently (Exh. EN-2, at 3-9, EFSB-PA-9). The Companies estimated an alternative solution consisting of a hypothetical hybrid system (a 170 MW solar plant paired with a 169 MW, 4-hour storage BESS) at $239,253,665 (Exh. EFSB-PA-14). The Companies reviewed all PV and BESS projects proposed by developers in the ISO-NE interconnection queue at the High Hill Switching Station or downstream from it (Exh. EN-2, at 3-9 to 3-10). The Companies noted that the BESS project typically have four hours of maximum discharge capacity and therefore lack the discharge duration necessary to address the longer duration of reliability need in the Project Load Pocket (Exh. EN-2, at 3-10). Finally, the Companies added that the BESS projects could withdraw from the queue at any time, which would make BESS infeasible for meeting the identified need in a reliable manner (Exh. EN-2, at 3-10).[20]

c. Technically Feasible NTAs

Once the Companies determined that the generation projects currently in the interconnection queue would not address the transmission reliability needs, the Companies designed a hypothetical NTA consisting of either of a conventional generation facility or solar facility paired with storage (Exh. EN-2, at 3-10). The Companies explored practical challenges of a new generation facility such as development time, land requirements, and infrastructure requirements (Exh. EN-2, at 3-10). The Companies determined the requirements of a site in proximity to High Hill Switching Station for an NTA solution would entail completion of permitting and siting processes, interconnection studies with ISO-NE, securing an available fuel supply (if applicable), and contracting with equipment suppliers and construction vendors (Exh. EN-2, at 3-10). The Companies stated that conventional generation alternatives like gas-fired generators would require significant amounts of land as well as pipeline improvements to ensure adequate fuel supply (Exh. EN-2, at 3-11). The Companies also presented lengthy permitting

[20] The Companies also noted that the Project's completion has been assumed in interconnection studies for many DERs in the Project area and may prove to be a necessity for successful interconnection of these resources (Exh. EN-2, at 3-10).

timelines for both gas supply enhancements and the generators themselves as challenges (Exh. EN-2, at 3-11). The Companies concluded that conventional alternatives were cost prohibitive, with the least expensive option estimated to cost $7 million per year (Exh. EN-2, at 3-11). The Companies indicated that those hurdles made it impractical and unlikely that they would develop a generation project within the same time frame as the Project (Exh. EN-2, at 3-10).

The Companies estimated that the amount of land required for a solar plus battery solution would be 1,100 acres (Exh. EN-2, at 3-11). In addition, this NTA solution would likely require land acquisitions or leasehold interests for transmission ROW access in order to interconnect (Exh. EN-2, at 3-11). In terms of cost, the Companies estimated that a combined solar and battery storage solution would cost approximately $25.4 million per year (Exh. EN-2, at 3-11). For the reasons listed above, the Companies found the hypothetically available NTAs to be inferior to the Project both from a financial and constructability point of view (Exh. EN-2, at 3-11).

C. Analysis and Findings on Alternative Approaches

The Companies' assessment of alternative approaches to the proposed Project included a review of potential transmission and non-transmission alternatives. Regarding transmission alternatives, the record shows that the Undersea Cable Alternative and Synchronous Solution were inferior to the Project. The Undersea Cable Alternative would involve acquisition of new ROW or easements and a new switching station to be built would cost $102.3 million as compared to the Project's $52.7 million cost. The Synchronous Solution is inherently less reliable because it has more moving parts and more maintenance requirements. It would also not provide equivalent benefit to the Project in facilitating maintenance activities on other transmission lines, or for interconnecting DERs in the Project Load Pocket. Additionally, the incremental cost of pursuing the Synchronous Solution relative to the Project was approximately $7.5 million, which is approximately 14 percent more than the cost of the Project.

The Companies considered whether NTA facilities proposed to interconnect within the Load Pocket could meet an NTA injection requirement of 85 MW. The record shows that active and passive demand response measures (such as on-call generation and EE) are not deployable to

the scale necessary to meet the minimum injection requirement of 85 MW. By 2029, the Companies predicted future EE will reduce 58 MW from load requirements. The Companies argue that an additional 85 MW reduction in load is simply not achievable.

A hypothetical combined PV and utility-scale BESS facility would be cost-prohibitive due to the scale and costs of energy storage associated with locating such a facility. Conventional generators such as gas-fired or dual-fuel generators were similarly infeasible due to land and infrastructure requirements, and complicated and costly permitting timelines.[21] Overall, the record shows that the NTA alternatives identified in the record are technically infeasible or inferior to the Project with respect to reliability and cost.

Based on its review of and transmission and non-transmission alternatives, the Siting Board finds that the Project is superior to the other alternatives identified with respect to providing a reliable energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost.

V. ROUTE SELECTION

A. Standard of Review

G.L. c. 164, § 69J requires a petition to construct to include a description of alternatives to the facility, including "other site locations." Thus, the Siting Board requires an applicant to demonstrate that it has considered a reasonable range of practical siting alternatives and that its proposed facilities are sited in locations that minimize cost and environmental impacts while ensuring a reliable energy supply. To do so, an applicant must meet a two-pronged test. First, the applicant must establish that it developed and applied a reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that it has not overlooked or eliminated any routes that, on balance, are clearly superior to the proposed route. Second, the applicant generally must establish that it identified at least two noticed sites or routes with some measure of geographic diversity. SouthCoast Wind at 45-46; GCEP at 37-38; Beverly-Salem

[21] Although the Board finds the Companies' claims of "infeasibility" of BESS projects due to withdrawal unpersuasive, the cost prohibitive nature of such projects renders BESS impractical in this specific instance.

at 29. But see Colonial Gas Company d/b/a National Grid, EFSB 16-01, at 28-29 (2016) ("Colonial 2016"); Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30, at 40-42 (2019) ("Colonial 2019"), where the Siting Board found the company's decision not to notice an alternative route to be reasonable.

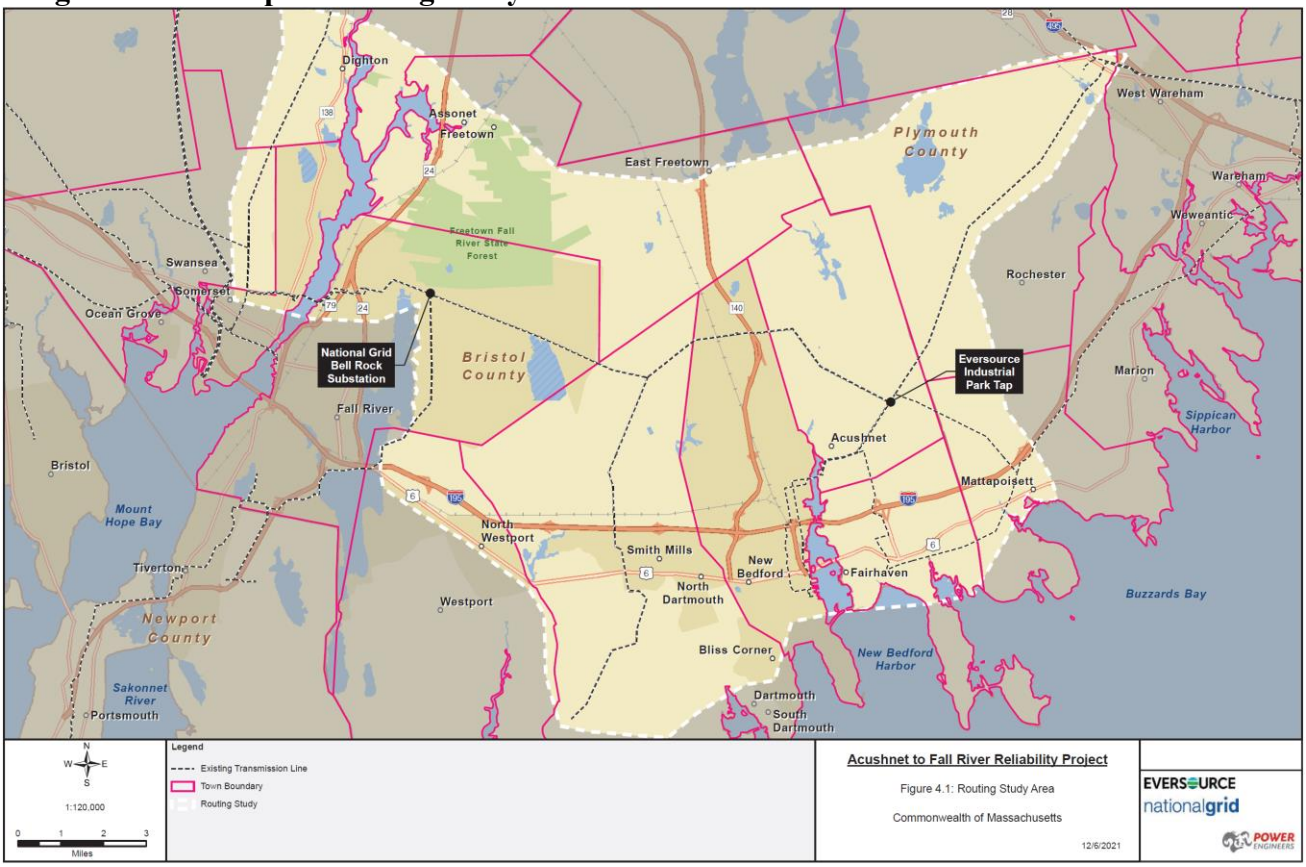
B. Companies' Approach to Route Selection

In their routing analysis, the Companies sought to identify a technically feasible route that would minimize impacts on the natural and built environments and be cost effective (Exh. EN-2, at 4-1). The Companies' analysis followed this sequence: (1) defining a Routing Study Area and developing a general set of route selection criteria; (2) identifying a Universe of Routes, including all potential overhead and underground routes; (3) screening the potential routes against the route selection criteria to narrow the route options down to candidate routes and variations; (4) evaluating, scoring, weighing, and ranking the candidate routes based on more route-specific information, including the route selection criteria, cost, and reliability; and (5) selecting a preferred route (Exh. EN-2, at 4-1, 4-26 to 4-27).

1. Defining Routing Study Area and Establishing Route Selection Criteria

The Companies defined the Routing Study Area, centered around the Companies' existing transmission line ROWs, as land within the following geographic boundaries (see also Figure 5): (1) Enbridge Natural Gas Pipeline Corridor to the north; (2) U.S. Highway Route 6 to the south; (3) Bell Rock Substation to the west; and (4) Industrial Park Tap to the east ("Routing Study Area") (Exh. EN-2, at 4-1). The Routing Study Area consisted of state, municipal, and private open space interspersed with pockets of residential, commercial, industrial, and agricultural lands (Exh. EN-2, at 4-2).

Figure 5: Map of Routing Study Area.



Source: Exh. EN-2, Fig. 4.1.

Next, the Companies established a set of criteria to identify potential overhead and underground routes:

- Maximize use of existing linear corridors, preferring existing transmission line ROW, but also considering other utility and transmission corridors;
- Maintain system operability/reliability, including minimizing access restrictions;
- Minimize impacts to environmental resources;
- Minimize cost, by avoiding underground construction where possible;
- Limit construction constraints, including minimizing highway crossings or working within other utility corridors such as railroad corridors; and,
- Minimize impacts to densely developed areas.

Source: Exh. EN-2, at 4-2.

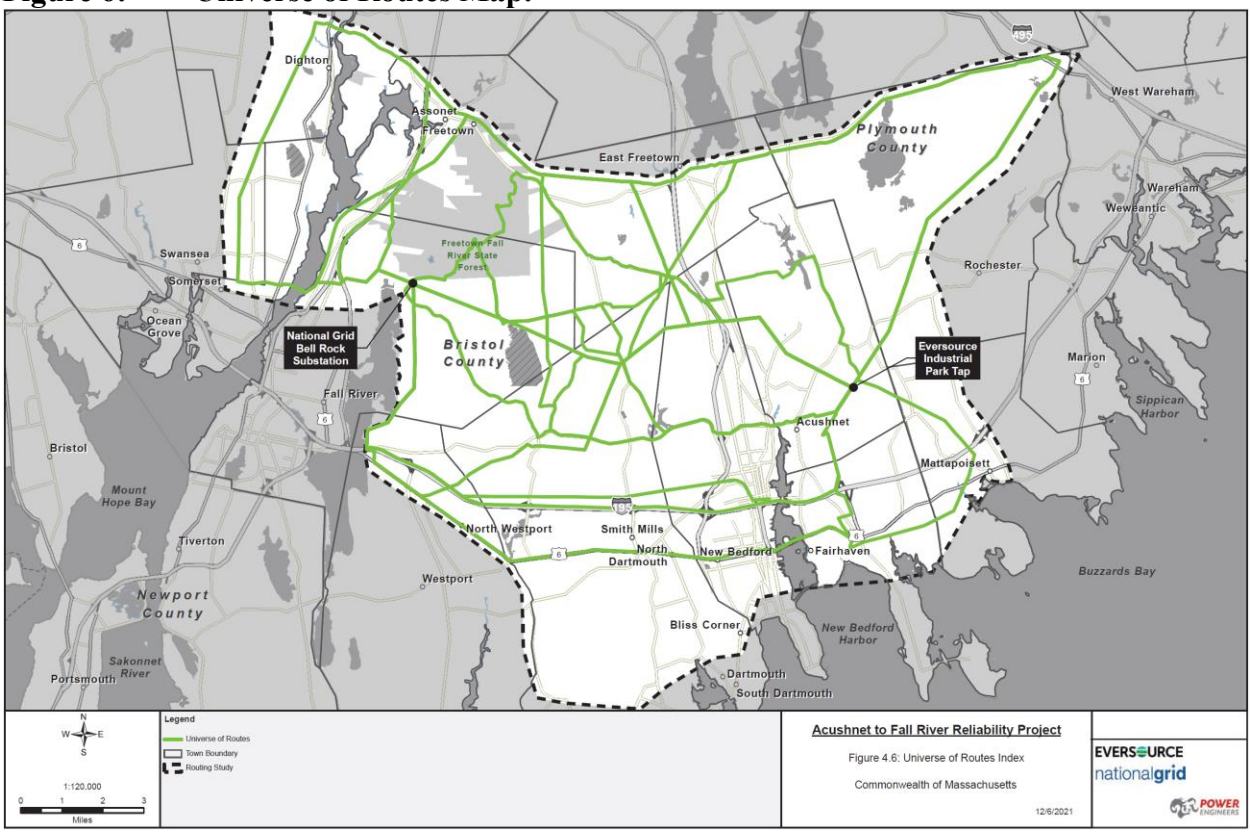
The Companies explained that in developing the criteria they considered technical constraints, including necessary vertical and horizontal clearances, depths, setbacks, and final connection points at either a substation or switching station (Exh. EN-2, at 4-2).

2. Identifying the Universe of Routes

With the above criteria, the Companies conducted a "macro" review of United States Geological Survey ("USGS") topographic maps, Geographic Information System ("GIS") data and aerial imagery of the Routing Study Area to identify existing linear corridors that could be used, individually or in combination, to construct the New Line (Exh. EN-2, at 4-3). The Companies focused on the use of existing utility and transportation corridors to avoid the need to create a new ROW (Exh. EN-2, at 4-3). The Companies identified nine existing transmission/distribution line corridors (which the Companies designated ROW 1-9), one municipal-owned utility corridor (which the Companies designated ROW 10), and various railroad, highway, local roadway, and natural gas pipeline corridors (Exh. EN-2, at 4-3 to 4-5).

Through combining all possible routing through these ROWs and corridors from the Industrial Park Tap to the Bell Rock Substation, the Companies identified 24 different route options, as shown in Figure 6, which the constitute the Project's Universe of Routes (Exh. EN-2, at 4-5).

Figure 6: Universe of Routes Map.



Source: Exh. EN-2, Fig. 4.6.

3. Screening Potential Routes and Narrowing Down to a List of Candidate Routes

During the initial screening process based on the same criteria that the Companies would later use in scoring the Candidate Routes, the Companies determined that 17 of the 24 routes in the Universe of Routes were not suitable for the New Line due to concerns related to land acquisition requirements and associated cost, complications with collocating with transportation and gas infrastructure and construction constraints (Exh. EN-2, at 4-6). The Companies eliminated those routes from further consideration and conducted detailed analysis and ranking on the remaining seven route options ("Candidate Routes"), as summarized in Table 10 and shown in Figure 7 (Exh. EN-2, at 4-6, 4-11).[22]

22 The Company retained the original route numbers in its analysis of the seven Candidate Routes. Siting Board staff also refer to the Candidate Routes with those numbers.

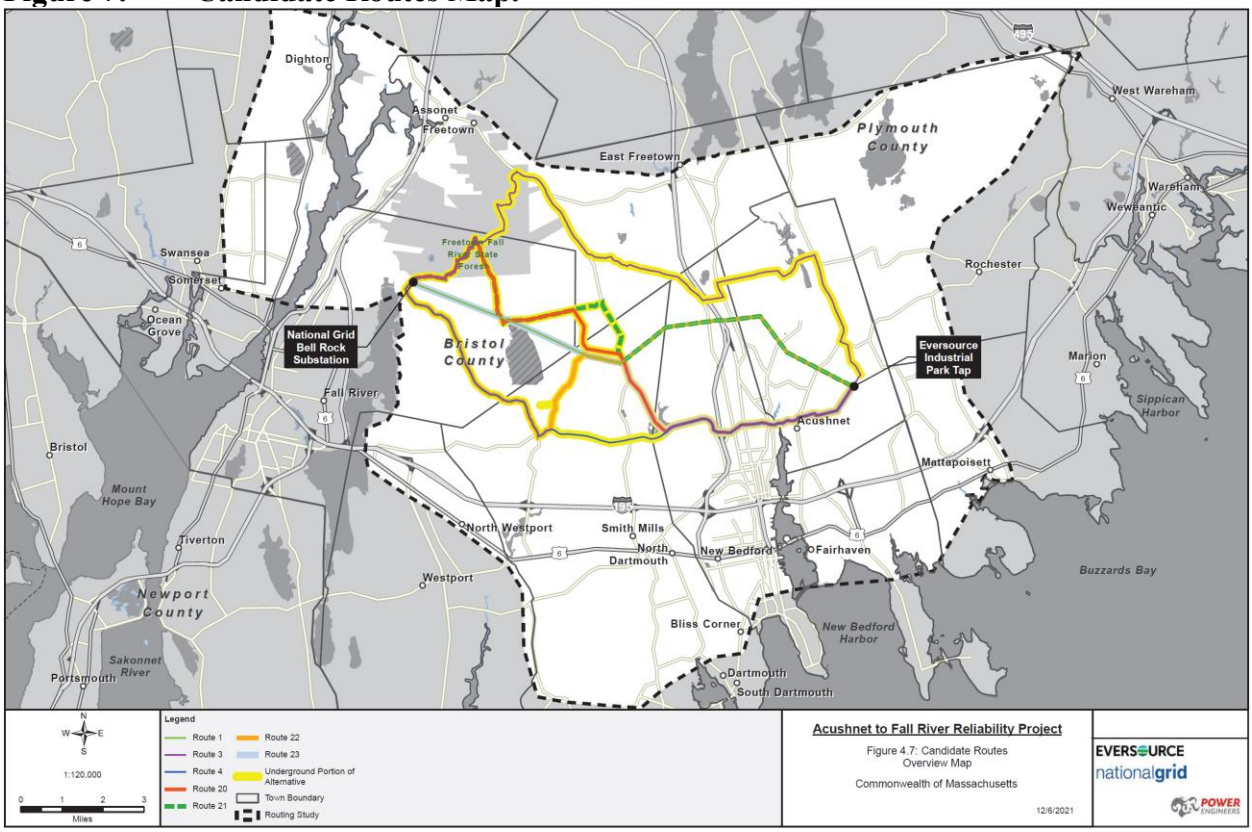
Table 10: Candidate Routes Summary.

Candidate Route	Total Length	Routing (UG: underground OH: overhead)	Major Waterbody Crossings	Complex Crossings (crossing distance)	Landmarks and Major Conservation Areas
1 (Proposed Route)	12.1 miles	12.0 miles OH and 600 feet UG within Transmission Line ROW 4.	Acushnet River, Copicut Reservoir	Railroad crossing in New Bedford (100 feet); transmission line crossing at Industrial Park Tap (150 feet); transmission line crossing at High Hill (440 feet)	Wheldon Woods Conservation Area, Acushnet Cedar Swamp State Reservation, Southeastern Massachusetts Bioreserve, Watuppa Reservation
3	18.4 miles	0.4 mile OH within Transmission Line ROW 1; 18 miles UG along local roads from Mendall Road in Acushnet to Bell Rock Road in Fall River.	New Bedford Reservoir	Railroad crossing at Main Street across Acushnet and New Bedford via HDD (50 feet)	Freetown/ Fall River State Forest, Southeastern Massachusetts Bioreserve, Watuppa Reservation
4	14.1 miles	0.7 mile OH within Transmission Line ROW 2; 13.4 miles UG along local roads from Hathaway Road in Acushnet to Bell Rock Road in Fall River.	Acushnet River	Acushnet River crossing at Main Street via HDD (50 feet); railroad crossing along Tarklin Hill Road in New Bedford via pipe jacking (70 feet)	Copicut Woods, Southeastern Massachusetts Bioreserve, Watuppa Reservation
20	15.7 miles	0.7 mile OH within Transmission Line ROW 2; 15 miles UG along local roads from Hathaway Road in Acushnet to Bell Rock Road in Fall River.	Acushnet River, Turner Pond	Acushnet River crossing at Main Street via HDD (50 feet); railroad crossing along Tarklin Hill Road in New Bedford via pipe jacking (70 feet); Route 140 crossing via pipe jacking (275 feet); Shawmut Avenue Turner Pond crossing in Dartmouth via HDD (330 feet)	Acushnet Cedar Swamp State Reservation, Southeastern Massachusetts Bioreserve, Freetown Fall River State Forest, Watuppa Reservation
21	15.1 miles	6.5 miles OH within Transmission Line ROW 4; 8.6 miles UG along local roads from High Hill Road in Dartmouth to Bell	Acushnet River	Railroad crossing in New Bedford (100 feet); transmission line crossing at Industrial Park Tap (150 feet)	Wheldon Woods Conservation Area, Acushnet Cedar Swamp State Reservation, Southeastern

Candidate Route	Total Length	Routing (UG: underground OH: overhead)	Major Waterbody Crossings	Complex Crossings (crossing distance)	Landmarks and Major Conservation Areas
		Rock Road in Fall River.			Massachusetts Bioreserve, Freetown Fall River State Forest, Watuppa Reservation
22	15.5 miles	7.5 miles OH within Transmission Line ROW 4; 8.0 miles UG along local roads from Collins Corner Road in Dartmouth to Bell Rock Road in Fall River.	Acushnet River	Railroad crossing in New Bedford (100 feet); transmission line crossing at Industrial Park Tap (150 feet); transmission line crossing at High Hill (440 feet)	Acushnet Cedar Swamp State Reservation, Southeastern Massachusetts Bioreserve, Copicut Woods, Watuppa Reservation
23	12.8 miles	0.7 mile OH within Transmission Line ROW 2; 6.6 miles UG along local roads from Hathaway Road in Acushnet to High Hill Road in Dartmouth; and another 5.5 miles OH within Transmission ROW 4.	Acushnet River, Turner Pond, Copicut Reservoir	Transmission line crossing at High Hill (440 feet); Shawmut Avenue Turner Pond crossing in Dartmouth via HDD (330 feet); Acushnet River crossing at Main Street via HDD (50 feet); railroad crossing along Tarklin Hill Road in New Bedford via pipe jacking (70 feet)	Acushnet Cedar Swamp State Reservation, Southeastern Massachusetts Bioreserve, Watuppa Reservation

Source: Exhs. EN-2, at 4-11; EFSB-RS-5; Companies Brief at 70, citing Exhs. EN-2, at 4-12, Table 4-2; EFSB-RS-3; EFSB-RS-3(1).

Figure 7: Candidate Routes Map.



Source: Exh. EN-2, Fig. 4.7.

4. Weighting and Scoring Candidate Routes

The Companies identified 15 criteria across three categories for scoring the Candidate Routes (Exh. EN-2, at 4-13). The Companies assigned each criterion a weight ranging from one to three, with one being the lowest weight and three being the highest weight, to allow the scoring to reflect the relative importance of the criterion (Exh. EN-2, at 4-13). The Companies also used a "ratio" scoring system to compare the Candidate Routes on each of the 15 criteria, where the raw score for each route is divided by the highest raw score among all the Candidate Routes; a lower score indicates a lower potential impact (Exh. EN-2, at 4-13).[23] Table 11 below presents the weighted scores for the specific criteria evaluated along each Candidate Route:

[23] For example, if Route X involves 10 acres of tree removal, Route Y five acres, and Route Z two acres, Route X would score 1.0, Route Y would score 0.5, and Route Z would score 0.2 (Exh. EN-2, at 4-13).

Table 11: Candidate Route Scoring Evaluation Matrix (Condensed).

Candidate Route / Weighted Criteria Score	**1**	**3**	**4**	**20**	**21**	**22**	**23**
Social / Developed Environment							
Residences	0.29	3.00	2.38	2.25	0.61	1.01	1.93
Commercial	0.17	0.51	2.00	1.86	0.26	0.17	1.83
Sensitive Receptors	0.00	2.14	3.00	2.57	0.00	0.64	2.36
DCR Conservation Land	0.00	2.50	1.27	3.00	3.00	1.30	0.00
Historic & Archaeologic Resources	0.45	1.03	2.00	1.80	0.42	0.61	1.66
Subtotal	**0.91**	**9.18**	**10.65**	**11.48**	**4.29**	**3.73**	**7.78**
Natural Environment							
Wetlands	1.00	0.08	0.12	0.14	0.75	0.89	0.39
ORW, ACEC & Chap. 91 Jurisdictional Crossings	1.00	0.00	1.00	2.00	1.00	0.00	2.00
Rare Species Habitat	2.00	0.41	0.67	0.71	0.73	0.76	1.98
Tree Clearing	3.00	0.59	0.38	0.65	1.45	1.32	2.22
Potential for Subsurface Contamination	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Potential Traffic Congestion Impacts	0.00	3.00	2.23	2.48	1.42	1.33	1.10
Subtotal	**7.00**	**4.08**	**5.40**	**6.98**	**5.35**	**4.30**	**8.69**
Constructability							
Complex Crossings	1.20	0.40	1.20	1.60	0.80	1.20	2.00
Congestion with Existing Utility Infrastructure	0.00	1.10	2.00	2.00	0.00	0.00	2.00
Hard Angles	0.12	1.00	0.28	0.72	0.52	0.28	0.32
Substantial Road Improvements Required	1.58	2.39	2.16	3.00	3.00	2.16	1.62
Subtotal	**2.90**	**4.49**	**5.64**	**7.32**	**4.32**	**3.64**	**5.94**
Total							
Total Criteria Score^	**10.82**	**17.75***	**21.70**	**25.78**	**13.95**	**11.67**	**22.41**

Source: Exh. EN-2, at 4-23 to 4-24, Table 4-4.

* Table 4-4 erroneously showed the total criteria score for Route 3 as 18.15 when the sum of all criteria score is 17.75.

^ Rounding errors on Table 4-4 are left as-is in this table.

According to the Companies' analysis, Route 1 has the lowest weighted score (10.82) and would thus result in the lowest potential impact of all the Candidate Routes (Exh. EN-2, at 4-21).The Companies determined that Route 1 had the lowest weighted score for the residences, potential for traffic congestion, hard angles, and substantial road improvements criterion (Exh. EN-2, at 4-23). Per the Companies' assessment, Route 22 ranked second best with a score of 11.67 (lower impacts than Route 1 in the natural environment criteria), followed by Route 21 with a score of 13.95 (also beating Route 1 in the natural environmental criteria) (Exh. EN-2, at 4-23).

The Companies developed a -25%/+25% cost estimate for their Proposed Route based on the sum of National Grid's and Eversource's transmission line cost estimates for the Project, whereas the Companies developed conceptual cost estimates (-50%/+200%) for the other Candidate Routes based on cost-per-mile estimates of $3.65 million per mile for overhead construction and $20 million per mile for underground construction (Exh. EN-2, at 4-25). The estimated costs are shown below in Table 12.

Table 12: Conceptual Screening Estimated Costs.

Candidate Route	Length	Cost per Segment (million)	Total Estimated Cost (million)
1 (Proposed Route)	12.1 miles (12.0 miles overhead (OH) & 600 feet underground (UG))	N/A*	$50.5
3	18.4 miles (0.4 miles OH & 18.0 miles UG)	OH - $1.46 UG - $360	$361.46
4	14.1 miles (0.7 miles OH & 13.4 miles UG)	OH - $2.56 UG - $268	$270.56
20	15.7 miles (0.7 miles OH and 15.0 miles UG)	OH - $2.56 UG - $300	$302.56
21	15.1 miles (6.5 miles OH and 8.6 miles UG)	OH - $23.73 UG - $172	$195.73
22	15.5 miles (7.5 miles OH & 8.0 miles UG)	OH - $27.38 UG - $160	$187.38

23	12.8 miles (6.2 miles OH & 6.6 miles UG)	OH - $22.63 UG - $132	$154.63

Source: Exh. EN-2, at 4-25, Table 4-5.
* The estimated cost for the Candidate Route 1 (Proposed Route) was not developed based on a cost-per-mile estimate, thus the "N/A" (see Exh. EN-2, at 4-25).

The Companies noted that Route 1 was significantly less expensive than any of the other Candidate Routes due to its shorter length and almost entirely overhead construction (Exh. EN-2, at 4-26). Each of the other Candidate Routes required at least six miles of underground cable installation due to road corridors that are too narrow to accommodate overhead transmission lines (Exhs. EN-2, at 4-25; EFSB-RS-11). The next least expensive route, Route 23, was estimated at more than three times the cost of Route 1 (Exh. EN-2, at 4-25). The Companies indicated that the conceptual estimates developed for their analysis were an objective basis for comparing the potential cost differentials among the various routes (Companies Brief at 73 & n.33, citing Exh. EN-2, at 4-25).

Regarding reliability, the Companies considered overhead and underground transmission technologies inherently reliable and constructed to be robust systems that meet current codes and standards (Exh. EN-2, at 4-26). Consequently, the Companies considered the reliability of the Candidate Routes to be comparable (Exh. EN-2, at 4-26).

5. Selecting a Proposed Route

After assessing the seven Candidate Routes using the 15 criteria (producing the weighted scores in Table 11), and comparing the estimated costs shown in Table 12, the Companies selected Route 1 (the "Proposed Route") because it had the lowest overall impact, was the least expensive among the Candidate Routes to construct, and would have comparable reliability (Exh. EN-2, at 4-26). The Companies argue that Route 1 is clearly superior to the remaining options (Companies Brief at 74, citing Exh. EN-2, at 4-26).

The Companies considered whether presenting a notice alternative route was warranted, given the "clear" superiority of Route 1 from a cost perspective (Exh. EN-2, at 4-26). The Companies stated that Routes 3 and 4, which would offer the most geographic diversity from Route 1, were not feasible as noticed alternative routes due to their lengthy segments of

underground construction, which resulted in significant additional costs, as well as disruption to the communities traversed (Exh. EN-2, at 4-26 to 4-27). The Companies noted that Routes 20, 21, 22 and 23 scored worse and were also significantly more expensive than Route 1, and thus, did not present any advantages or benefits over the Proposed Route (Exh. EN-2, at 4-26). Additionally, the Companies stated that Routes 3, 4, 20, 21, and 22 would require approval from the Legislature under the Article 97 provision for the release of lands currently held by DCR for conservation purposes, which could be challenging and contribute to delays (Exh. EN-2, at 4-27).

Due to the reasons above, the Companies concluded that specifying a noticed alternative route had the potential to raise concern unnecessarily among abutters when the Companies had no intention of constructing the Project along the "substantially" inferior routes (Exh. EN-2, at 4-26). Moreover, the Companies noted that the Siting Board had previously decided that the practice of providing a noticed alternative route for project proposals was not mandated by Section 69J and that a noticed alternative route may not be warranted in all cases (Companies Brief at 64, citing Colonial 2019 at 40-41; Colonial 2016 at 28).

C. Geographic Diversity

The Companies represented that their route selection process evaluated a reasonable array of potential routes, including routes with geographic diversity, and confirmed that no clearly superior route exists (Exh. EN-2, at 4-1). The Companies argue that they selected the route that best balanced considerations of reliability, environmental impacts, and cost (Companies Brief at 65, citing Exh. EN-2, at 4-1).

D. Analysis and Findings on Route Selection

The Siting Board requires that applicants consider a reasonable range of practical siting alternatives and that proposed facilities are sited in locations that minimize cost and environmental impacts. In past decisions, the Siting Board has found various criteria to be appropriate for identifying and evaluating route options for transmission lines and related facilities. These criteria include natural resource impacts, land use impacts, community impacts,

cost, and reliability. GCEP at 86; Mid Cape Reliability at 48, Beverly-Salem at 38-39. The Siting Board has also found the specific design of scoring and weighting methods for chosen criteria to be an important part of an appropriate site selection process. GCEP at 86; Mid Cape Reliability at 48; Beverly-Salem at 39.

The Companies followed a methodical approach to identify technically feasible routes from the Routing Study Area. The Companies limited their route selection to existing ROWs (specifically transmission line, distribution line, gas pipeline, highway, public roadway, and railroad corridors). From these ROWs, the Companies identified 24 potential routes from the Industrial Park Tap to the Bell Rock Substation, which constitute the Universe of Routes. Then, in an initial screening based on the same criteria that the Companies would later use in scoring the Candidate Routes, the Companies eliminated 17 routes that were not suitable for the construction and operation of the New Line due to collocation challenges and limited space due to existing infrastructure. The eliminated routes include those that follow natural gas transmission pipeline ROWs, fully built-out transmission ROWs that would require expensive retrofits to fit the New Line, railroad corridors and highway corridors, as well as ROWs involving overhead transmission lines running along local roadways.

To evaluate the remaining seven routes, the Companies developed a quantitative scoring system with 15 weighted criteria. The Companies assigned criteria weights according to the level of environmental impacts or technical constraints that each criterion would impose on the construction of the New Line. Out of the seven Candidate Routes, the Companies selected the route with the lowest score as the Proposed Route. The record shows that: (1) Route 1 had the best (lowest) total weighted score of 10.82; (2) however, Route 1 also had the highest (worst) weighted scores on wetlands, rare species habitat, and tree clearing out of the Candidate Routes; (3) Route 1 had the lowest total estimated cost of $50.5 million, which was at least $100 million less any other Candidate Route; and (4) the Candidate Routes were comparable in terms of reliability.

Although Route 1 would result in the highest potential for impacts on wetlands, rare species habitats, and tree clearing, it had lower impacts on the social/developed environment, lower constructability challenge, and substantially lower cost. The Siting Board observes that

while several other Candidate Routes would avoid wetlands impacts and tree clearing by aligning to existing road corridors, they instead would require significantly costlier construction of underground cables. Therefore, the Siting Board finds that Route 1 is the superior route out of all seven Candidate Routes. Due to substantially higher costs of the other Candidate Routes with little or no overall advantage over the Companies' Proposed Route, the Companies decided against presenting any routes as noticed alternative routes. The Siting Board finds that the Companies' decision not to include a noticed alternative route to be reasonable. This finding is consistent with the Siting Board's previous decisions. Colonial 2019 at 40-41; Colonial 2016 at 28.

Besides finding Route 1 the superior route, the Siting Board finds the Companies' route selection process, including the general criteria used in developing the potential routes and scoring system for the Candidate Routes to be acceptable. On geographic diversity, the Siting Board finds the Companies' methodology in eliminating infeasible and less feasible routes reasonable and unlikely to overlook any clearly superior routes. The Siting Board also finds that the Companies' approach in identifying potential routes—maximizing the use of existing linear corridors, preferably existing utilities and transportation ROWs, and minimizing the need to create new ROWs—would best meet the general criteria concerning reliability, cost, and environmental impacts.[24]

Based on the route selection process described above, the Siting Board finds that the Companies have: (1) developed and applied a reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that they have not overlooked or eliminated any routes that are on balance clearly superior to the proposed Project, and (2) identified a range of transmission line routes with some measure of geographic diversity. Therefore, the Siting Board finds that the Companies have demonstrated that they examined a reasonable range of practical siting alternatives and that their proposed facilities are sited in locations that minimize cost and environmental impacts while ensuring a reliable electric supply.

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[24] The Siting Board recognizes the higher environmental impact score of Route 1. The Siting Board identifies these higher environmental impacts and assesses the Companies' actions to minimize and mitigate these impacts, below.

VI. ANALYSIS OF PROJECT IMPACTS

A. Standard of Review

In implementing its statutory mandate under G.L. c. 164, §§ 69H and 69J, the Siting Board requires a petitioner to show that its proposed facility minimizes costs and environmental impacts while ensuring a reliable energy supply. SouthCoast Wind at 68-69; GCEP at 102-103; Mid Cape Reliability at 50; Beverly-Salem at 41-42. To evaluate the proposed facility, the Siting Board first determines whether the petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to enable the Siting Board to make such a determination. The Siting Board then examines the environmental impacts of the proposed facility and determines: (1) whether environmental impacts would be minimized and (2) whether an appropriate balance would be achieved among conflicting environmental impacts as well as among environmental impacts, cost, and reliability. SouthCoast Wind at 68-69; GCEP at 102-103; Mid Cape Reliability at 50-51; Beverly-Salem at 41-42.

B. Description of the Project Elements

1. New Transmission Line

The Companies would construct the New Line along an existing Eversource and National Grid transmission line ROW from the Industrial Park Tap in Acushnet to the Bell Rock Substation in Fall River (Exh. EN-2, at 1-3). The New Line would consist primarily of overhead transmission line installation with two small segments of underground cable (Exh. EN-2, at 1-3). The Companies would construct the overhead transmission line on self-weathering or galvanized steel H-fame and monopole structures directly embedded into ground, except at angle points, dead-end structures, and certain other locations within the ROW where the Companies would use self-supported steel structures erected on concrete caissons to support heavier loads (Exh. EN-2, at 5-2).

For each of the underground cable segments, one approximately 160-foot segment at the Eversource Industrial Park Tap and one approximately 440-foot segment at the Eversource High Hill Switching Station, the Companies would install duct banks, consisting of pre-assembled polyvinyl chloride conduit encased in thermal concrete, bookended by a set of overhead-to-

underground transmission structures, all within the ROW (Exh. EN-2, at 5-8). By incorporating the underground cable segments, the Companies would avoid multiple overhead line crossings at the Industrial Park Tap and High Hill Switching Stations, as well as modifications to the existing overhead lines (Exh. EN-2, at 1-3, 5-2).

2. Substation Work

The Companies would upgrade the protection, control, and telecommunication systems at three substations, Eversource's Tremont Substation in Wareham and Acushnet Substation in Acushnet, and National Grid's Bell Rock Substation in Fall River, to accommodate the New Line (Exh. EN-2, at 1-3 to 1-4). All Substation Work would take place within the existing footprints of the substations and use existing access driveways (Exh. EN-2, at 1-3 to 1-4, 5-3). The upgrades at Tremont Substation and Acushnet Substation would involve only the replacement of electrical relays within the existing substation's control buildings (Exh. EFSB-S-5). The upgrades at Bell Rock Substation would include the installation of a wave trap and line tuner, which also involves connecting, testing, and commissioning of the equipment (Exh. EFSB-RS-2).

C. General Description of Project Construction

The Companies would use conventional overhead electric transmission line construction techniques to construct the above-ground segments of the New Line, which would involve seven stages, and open cut trenching methods to install underground duct banks for the underground segments of the New Line, which would involve five stages (Exh. EN-2, at 5-4, 5-8).

1. Overhead Transmission Line

a. ROW Survey, Vegetation and Tree Removal, Mowing

Before tree clearing and mowing, the Companies would survey and mark the boundary of the Proposed Route ROW to prevent unauthorized vehicular encroachment into wetland areas (Exh. EN-2, at 5-4). Moreover, the Companies would flag and install fencing around other sensitive resources, such as cultural resource features and Natural Heritage Endangered Species Program ("NHESP") state-listed plant species (Exh. EN-2, at 5-4). The Companies would

establish temporary laydown areas along the Proposed Route ROW to serve as locations to load timber, temporarily stage a wood-chipper, and park tree removal vehicles and equipment (Exh. EN-2, at 5-5).

Within the Proposed Route ROW, the Companies would cut and remove trees from an approximately 27.5 acres of forested area and mow additional areas to reestablish access routes and prepare work pad and structure sites (Exh. EN-2, at 5-4 to 5-5). The Companies would not use any herbicides during the construction (Exh. EN-2, at 5-4 to 5-5).

b. Erosion and Sediment Control Installation

The Companies would install erosion and sediment control devices such as straw bales, straw wattles, siltation fencing, compost socks, and/or chip bales between the work site and environmentally sensitive areas such as wetlands and adjacent properties where there is a potential for soil erosion and sedimentation, in accordance with the Companies' Best Management Practices ("BMPs") Manuals and with approved plans and permit requirements (Exh. EN-2, at 5-5). These devices would also serve as a physical boundary to delineate between resources areas and approved construction areas (Exh. EN-2, at 5-5).

c. Access Road Construction and Improvements

To construct, inspect, and maintain the transmission line facilities, the Companies would use the existing network of access roads to the greatest extent practicable, but would need to construct approximately 6,254 linear feet of new road spurs generally within the ROW (including road realignments) to gain access to the new structure locations (Exh. EN-4, at 41). Access roads would vary in width from 16 to 20 feet wide and would be constructed of gravel, timber construction mats, or a combination thereof depending on-site specific conditions, related grading work, and whether the access roads are temporary or permanent (Exh. EN-2, at 5-6). The Companies would also make necessary improvements to existing access roads, such as stabilizing and leveling the roads and construction entrances with clean gravel and trap rock (Exh. EN-2, at 5-6).

The Companies would build the new road spurs within the boundaries of the Proposed Route ROW with three exceptions where Eversource would prioritize utilizing existing access roads and avoid wetlands, where possible (Exh. EN-2, at 5-22). The first instance would occur on the Keith's Tree Farm Conservation Easement in Acushnet where Eversource would use an existing private road for access (Exhs. EN-2, at 5-16; EN-4, App. B, Fig. 1-3, at 3). The second instance also occurs in Acushnet, along a segment of the ROW that completely overlaps with a wetland (Exh. EN-4, App. B, Fig. 1-3, at 4). The off-ROW access road avoiding the wetland would require tree removal, as the area is surrounded by dense vegetation (Exh. EN-4, App. B, Fig. 1-3, at 4). The new access road would also traverse two culverts (Exh. EN-4, App. B, Fig. 1-3, at 4). The third new access point occurs in Dartmouth, where Eversource would request access to use the driveway at 124 Pine Island Road, which crosses paths directly below and perpendicular to the ROW (Exh. EN-4, App. B, Fig. 1-3, at 14).

To allow for heavy equipment access within wetland areas where upland access is not available, the Companies would install construction mats, wooden lattice mats, or composite mats on top of existing vegetation (Exh. EN-2, at 5-6). The Companies stated that, in some instances, cutting or mowing woody vegetation might be required before construction mat installation (Exh. EN-2, at 5-6). The Companies would remove the temporary construction mat access roads and restore disturbed areas to pre-existing topography and hydrology following completion of construction (Exh. EN-2, at 5-6).

Additionally, the Companies stated that National Grid will deploy steel plates over the culvert on Quanapoag Road over the Copicut River during Project construction to distribute vehicle and equipment loads (Exh. CNA-I-3). National Grid will also install guardrails or barriers at this culvert crossing in coordination with Fall River officials (Exh. CNA-I-3).

d. Equipment Work Pads and Staging Area Construction

The Companies would construct work pads to provide a safe and level work area for construction equipment to undertake foundation work and structure assembly (Exh. EN-2, at 5-6). The Companies may mow low-growing woody vegetation and brush, as well as perform minor grading in constructing the work pads (Exh. EN-2, at 5-6). The Companies would leave

upland work pads in place after construction except for those located in floodplain and riverfront areas (Exh. EN-2, at 5-6). In wetlands, the Companies would use temporary construction mats to construct work pads and remove them after the completion of construction activities (Exh. EN-2, at 5-6).

In addition, the Companies would construct other temporary work sites including wire stringing and pulling sites, storage areas, staging areas, and laydown areas to support construction (Exh. EN-2, at 5-6 to 5-7). The Companies and/or designated contractor(s) would select these sites and make arrangements with property owners for use of the land during construction (Exh. EN-2, at 5-7). The Companies stated that selected staging areas and contractor laydown areas would typically be previously developed properties (Exh. EN-2, at 5-7).

e. Foundation and Transmission Structure Installation

The installation of H-frame and monopole structures would involve different processes (Exh. EN-2, at 5-7). For direct embedment structures, such as the monopoles, the Companies would excavate using a soil auger or standard excavation equipment and place a steel casing vertically into the hole and then backfill the hole (Exh. EN-2, at 5-7). After field assembling the monopoles, the Companies would insert each monopole by crane and then backfill the annular space with crushed stone (Exh. EN-2, at 5-7). For steel H-frame structures, the Companies would construct drilled caissons (Exh. EN-2, at 5-7). Then the Companies would lift the steel structures by crane and place them onto the anchor bolts (Exh. EN-2, at 5-7).

The Companies would stockpile excavated materials next to the excavation but not directly into wetland resource areas (Exh. EN-2, at 5-7). The Companies would remove encountered rock by means of drilling with rock coring augers rather than a standard soil auger (Exh. EN-2, at 5-7). In some cases, however, the Companies might use rock hammering and excavation to break up the rock, but they do not anticipate blasting (Exh. EN-2, at 5-7).[25]

[25] The Companies explained that they did not anticipate encountering significant ledge or bedrock blasting that would necessitate blasting (Companies Brief at 20, citing Exh. EN-2, at 5-7; Tr. 1, at 122-123).

f. Conductor, Optical Ground Wire, and Shield Wire Installation

After the H-frame and monopole structures are in place, the Companies would first install insulators on the structures, followed by the optical ground wire, shield wire, and power conductors using stringing blocks and wire stringing equipment (Exh. EN-2, at 5-7). The Companies would place temporary guard structures or boom trucks at road, highway crossings, and crossings of existing utility lines during the stringing operation (Exh. EN-2, at 5-7 to 5-8). While not anticipating helicopter work, the Companies would develop project-specific health and safety plans and Project hazard analyses in coordination with the contractor(s) in the event that helicopters are needed (Exh. EN-2, at 5-8). The Companies would also notify municipal officials, fire and police departments, and affected landowners in advance of any helicopter work (Exh. EN-2, at 5-8).

g. ROW Restoration and Stabilization

Following construction, the Companies would restore disturbed areas, including removal of construction debris, finalization of grading, stabilization of disturbed soil, and removal of temporary sediment control devices (Exh. EN-2, at 5-8). The Companies would also install permanent sediment control devices, restore existing stone walls and fences, install gates and roadblocks to restrict access onto the ROW by unauthorized persons or vehicles, and restore or replicate regulated environmental resource areas that are disturbed by the construction (Exh. EN-2, at 5-8).

2. Underground Transmission Line

For underground transmission line construction, the Companies would use open cut trenching to install the duct banks (Exh. EN-2, at 5-8). Besides the transmission conduits, the duct banks would carry additional ancillary conduits required for the ground continuity conductor, communication fiber, and future distributed temperature sensing cables (Exh. EFSB-CM-6). The Companies would need to excavate the trench by an additional foot on either side of the duct bank and an even wider cross section at the deepest trenching location where the conduits would terminate to riser structures (Exh. EFSB-CM-6). The Companies would sheet

and shore the trench as required by soil conditions to allow construction vehicles to pass safely and to support steel plates for cross-trench access, U.S. Occupational Safety and Health Administration ("OSHA") safety rules, and local and state regulations (Exh. EN-2, at 5-9).

The Companies would assemble the conduit sections and then lower the conduit into the trench (Exh. EN-2, at 5-9). The Companies would fill the area around the conduits with high-strength thermal concrete, followed by fluidized thermal backfill, thermally approved backfill, or native soil depending on local conditions (Exh. EN-2, at 5-9). The Companies would install the power cables and other accessory cables one-by-one using a cable reel set up between the riser structures (Exhs. EN-2, at 5-10; EFSB-CM-6). The Companies would field-test the power cables before energization (Exh. EN-2, at 5-10). Following cable installation, the Companies would restore disturbed areas to match the existing topography and ground cover, where vegetated areas will have a minimum of three inches of suitable topsoil, grass seed, lime, starter fertilizer, and mulch (Exh. EN-2, at 5-10).

3. Construction Work Hours and Schedule

The Companies proposed that typical work hours to be from 7:00 a.m. to 5:00 p.m. Monday through Friday, and from 9:00 a.m. to 5:00 p.m. on Saturdays, when daylight and weather conditions allow (Exh. EN-2, at 5-10). However, the Companies added that some work tasks, such as concrete pouring and transmission line stringing, must be continued through to completion once started, which might go beyond normal work hours (Exh. EN-2, at 5-10). Furthermore, the Companies noted that work requiring scheduled line outages and crossing of certain transportation and utility corridors might need to be performed on a limited basis outside of normal work hours, including on Sundays and holidays (Exh. EN-2, at 5-10). The Companies would provide sufficient notification to and obtain written approval from relevant municipal officials for these instances (Exh. EFSB-CM-4).

According to the Companies, National Grid would be constructing its portion of the Project primarily using internal construction resources whereas Eversource would be constructing its portions of the Project primarily using contractor crews (Exhs. EFSB-CM-1; EFSB-T-1). The Companies anticipate deploying between one to two crews, consisting of a total

of four to 16 individuals, in each phase of construction (Exh. EFSB-CM-1). The Companies expect Project construction to take approximately eight months to complete (Exh. CNA-N-1).[26] The Companies would time the substation upgrades to coincide with the energization (Exh. EN-2, at 1-4).

D. Project Impacts

1. Land Uses and Land-Based Resources

a. Companies' Description

i. Land Uses

The Companies assessed land use within and along their Proposed Route using Massachusetts Geographic Information System ("MassGIS") 2016 Land Use data, with the results shown below in Table 14 (Exh. EN-2, at 5-12). The Companies tabulated each type of land use in acres within (1) the Proposed Route ROW, and (2) within 300 feet of the edges of the Proposed Route ROW ("Proposed Route Study Area") (Exh. EN-2, at 5-12). The Companies noted that land uses adjacent to their Proposed Route are primarily undeveloped (including forests, grassland, and forested & non-forested wetland) and interspersed with areas of single-family residential, industrial, and agricultural uses (Exh. EN-2, at 5-12).

Table 14: Land Uses within the Proposed Route ROW and Study Area.

Land Use Type	Within the Proposed Route ROW (Acres)	Within the Proposed Route Study Area (Acres)
Residential – Single-Family	0.3	9.0
Residential – Multi-Family	0.0	1.1
Industrial	1.3	17.7
Right-of-Way	2.7	14.6
Other Impervious Areas	3.5	7.1

[26] Eversource forecasted that its portion of the Project construction would take approximately seven months dependent upon weather and any permit restrictions on the timing of specific activities; National Grid forecasted that its portion would take approximately eight to nine months, also dependent upon weather and permit restrictions (Tr. 1, at 114-115). The Companies stated that the two construction timelines would happen concurrently (Tr. 1, at 115).

Land Use Type	Within the Proposed Route ROW (Acres)	Within the Proposed Route Study Area (Acres)
Developed Open Space	13.1	50.3
Agricultural	5.8	20.1
Undeveloped	225.0	1,015.9
Open Water	1.1	13.1
Total	**252.8**	**1,148.9**

Source: Exh. EN-2, at 5-13, Table 5-1.

The Companies also reviewed local zoning districts, as shown in Table 15 below, which showed that most of the land located within the Proposed Route Study Area was residentially zoned (Exh. EN-2, at 5-14). The Companies also reviewed local master plans and open space plans for the four communities that the Proposed Route would pass through to determine whether the Project would comply with local planning initiatives (Exh. EN-2, at 5-12).[27]

Table 15: Zoning Districts within the Proposed Route Study Area.

Municipality	Residential (Acres)	Commercial (Acres)	Industrial (Acres)	Other (Acres)
Fall River	235.2	0.0	0.0	7.5 (Road ROW); 146.1 (Water Resource District); 29.35 (Road ROW); 10.7 (Water)
Dartmouth	131.4	0.0	100.1	2.8 (Road ROW)
New Bedford	49.9	0.0	87.5	29.4 (Road ROW)
Acushnet	340.4	0.0	0.0	7.7 (Road ROW)

Source: Exh. EN-2, at 5-14, Table 5-3.

(A) Residential and Other Developed Land Use

Along the Proposed Route, residential-single family development occurs primarily at existing roadway crossings (Exh. EN-2, at 5-13). Multifamily residences comprise approximately 1.1 acres of the Proposed Route Study Area and are predominantly located off

[27] The Companies found that, while these Master Plans place emphasis on infrastructure projects, they do not explicitly address transmission line utilities (Exh. EN-2, at 5-12).

Phillips Road in New Bedford (Exh. EN-2, at 5-13). A total of 128 residences are within the Proposed Route Study Area (Exh, EN-2, at 5-14). According to the Companies' analysis, 37 of these residences are within 100 feet of the centerline of the Proposed Route ROW (Exh. EFSB-LU-3). However, none of these residences are located within 50 feet of the Bell Rock, Tremont, or Acushnet Substations (Exhs. EFSB-NO-9; EFSB-LU-7).

Non-residential developed land uses within the Proposed Route Study Area are primarily industrial development and ROWs (Exh. EN-2, at 5-13). Industrial land use includes 17.7 acres of the New Bedford Business Park and a solar farm within the Proposed Route Study Area west of the New Bedford Business Park (Exh. EN-2, at 5-13). ROW land use (14.6 acres) included transportation corridors including Quanapoag Road and Copicut Road (Exh. EN-2, at 5-13). The Proposed Route ROW also crossed a New Bedford Water Board water supply ROW in the Town of Dartmouth, as well as an existing Algonquin Gas Transmission Pipeline ROW in the City of Fall River (Exh. EN-2, at 5-13, 5-16).

(B) Sensitive Receptors

The Companies identified two sensitive receptors[28] within the Proposed Route Study Area: New Bedford Fire Department Station 5 and Clifford Chapel, located across from each other on Acushnet Avenue in New Bedford (Exh. EN-2, at 5-14; Fig. 5.6, at 4). Both facilities are approximately 25 feet from the southern edges of the Proposed Route ROW and approximately 100 feet south of the ROW centerline (Exhs. EFSB-LU-3; EFSB-MF-3).

(C) Anticipated Land Use Impacts

The Companies stated that the New Line would be consistent with the existing surrounding utility infrastructure (Exh. EN-2, at 5-15). The Companies stated that the

[28] The Companies defined sensitive receptors as public facilities including hospitals, elder care facilities and nursing homes, public and private schools, cemeteries, licensed daycares, district courts, police stations, fire stations and places of worship (Exh. EN-2, at 5-14). The Companies relied on the USGS Geographic Names Information System database, and aerial photographic interpretation of available orthophotography to identify sensitive receptors along the route (Exh. EN-2, at 5-14).

construction of the Project would result in the permanent alteration of land within the Proposed Route ROW but would not require any permanent changes to abutting land uses along the Proposed Route ROW, additional easements, or property acquisitions (Exh. EN-2, at 5-15).[29] While there would be temporary impacts from the Project construction, the Companies maintain that, once operational, the Project would not interfere with any residential, business, or other public facilities (Exh. EN-2, at 5-15). Regarding Substation Work, the Companies anticipated no land use impacts because all construction work related to the upgrades would occur within the existing fenced-in substation yards and use existing access driveways (Exh. EN-2, at 5-3).

(D) Mitigation

The Companies would develop a Construction Community Outreach Plan ("Outreach Plan") to keep property owners, businesses, and municipal officials, including fire, police, and emergency personnel, updated on planned construction activities and provide a consistent point of contact for the public (Exh. EN-2, at 1-8, 5-15). The Companies would notify abutting property owners and municipal officials of their planned construction start date and work schedule prior to commencing construction and work closely with both groups to limit construction impacts (Exh. EN-2, at 1-8). In addition to the Project website and hotline, the Outreach Plan would include information on: (1) in-person pre-construction briefings with municipalities and other stakeholder groups; (2) regular e-mail updates to municipal officials; (3) periodic communications to abutters and other stakeholders regarding advance notice of scheduled construction activities and milestone construction activities; (4) the opportunity to sign up for email updates by scanning a QR code; (5) work area signage; and (6) meetings with affected property owners prior to each major stage of construction (Exh. EN-2, at 1-8). The Companies also described mitigation measures for wetlands impacts and traffic impacts that indirectly affect land use, which are discussed in Sections VI.D.2 and VI.D.6, respectively (Exh.

[29] As noted in Section VI.C.1.c, Eversource would request access from private landowners abutting the ROW for three off-ROW access road sections in Acushnet and Dartmouth to prioritize using existing access roads and avoid the placement of access roads in wetlands.

EN-2, at 5-15). The Companies contend that the Project's impacts on area residents would be minimized with the implementation of these mitigation measures (Exh. EN-2, at 5-15).

ii. Protected Land and Open Space

The Companies identified protected open space and recreation properties within the Proposed Route Study Area using the MassGIS protected and recreational open space data layer (Exh. EN-2, at 5-15).[30] Table 16 lists and Table 17 quantifies that the 14 sites consist of 537 acres of state, private, and municipally owned properties, which vary in their primary purposes—conservation, recreation, or water supply protection (Exh. EN-2, Table 5-4). Eleven of the sites overlap the Proposed Route ROW (Exh. EN4, App. B, Fig. 1-3).[31] Many of these sites provide year-round recreational opportunities, such as hiking and nature study, and seasonal activities such as fishing (Exh. EN-2, at 5-15).

Table 16: Protected Lands and Open Space within the Proposed Route Study Area.

Site Name	Owner	Location	Primary Purpose	Overlaps with the ROW*
Keith's Tree Farm Conservation Restriction	Private Owner	Acushnet	Conservation	Yes
Acushnet River Valley Conservation Area	Fairhaven-Acushnet Land Preservation Trust	Acushnet	Conservation	No
Wheldon Woods Conservation Area	Fairhaven-Acushnet Land Preservation Trust	Acushnet	Conservation	Yes
Acushnet River Valley Golf Course	Town of Acushnet	Acushnet	Recreation	Yes

30 The Companies also evaluated Areas of Critical Environmental Concern ("ACECs") and determined no ACECs are located within the Proposed Route Study Area (Exh. EN-2, at 5-15). ACECs are identified as environmentally significant places in Massachusetts that receive special recognition because of the quality, uniqueness, and significance of their natural and cultural resources (Exh. EN-2, at 5-15).

31 The Siting Board identified the eleven properties that overlap with the ROW through a visual inspection of Exh. EN-4, App. B, Fig. 1-3, as well as a trail map of the Watuppa Reservation from https://www.watuppareserve.com/maps-trails.

Site Name	Owner	Location	Primary Purpose	Overlaps with the ROW*
Clough Conservation Restriction	City of New Bedford	New Bedford	Conservation	No
Acushnet Cedar Swamp State Reservation	Division of State Parks and Recreation	New Bedford	Recreation and Conservation	Yes
High Hill Reservoir (Water Supply Conduit ROW)	City of New Bedford	Dartmouth	Water Supply	Yes
Town of Dartmouth Conservation Commission	Town of Dartmouth	Dartmouth	Conservation	No
Southeastern Massachusetts Bioreserve	City of Fall River	Fall River	Conservation	Yes
Copicut Reservoir	City of Fall River	Fall River	Water Supply	Yes
Southeastern Massachusetts Bioreserve	Division of State Park and Recreation/Department of Fish and Game	Fall River	Recreation and Conservation	Yes
Copicut Wildlife Management Area	Department of Fish and Game	Fall River	Conservation	Yes
Copicut Wildlife Conservation Easement	Private Owner	Fall River	Conservation	Yes
Watuppa Reservation	City of Fall River	Fall River	Water Supply	Yes

Source: Exhs. EN-2, at 5-16, Table 5-4; EN-4, App. B, Fig. 1-3.

* The Siting Board identified the eleven properties that overlap with the ROW through a visual inspection of Exh. EN-4, App. B, Fig. 1-3, as well as a trail map of the Watuppa Reservation from https://www.watuppareserve.com/maps-trails.

Table 17: Protected Lands and Open Space within the Proposed Route Study Area.

Study Buffer	Units	Proposed Route
Open Space Properties (Proposed Route Study Area)	Number	14
Open Space Land (Proposed Route Study Area)	Acres	537.4
Total Lands in the Proposed Route Study Area	Acres	1,149
Open Space Land (Proposed Route Study Area)	Percentage	47%
Open Space Land (Proposed Route ROW)	Acres	115.7

Source: Exh. EN-2, at 5-16, Table 5-4.

The Companies noted that the largest protected open space area within the Proposed Route Study Area is the Southeastern Massachusetts Bioreserve, which is protected open space that also includes the Freetown-Fall River State Forest (Exh. EN-2, at 5-16).[32] Several trails within the bioreserve cross the Proposed Route ROW (Exh. EN-2, at 5-16). The Acushnet Cedar Swamp State Reservation in Dartmouth and New Bedford, owned by the Commonwealth of Massachusetts, managed by DCR, is another major protected open space within the Proposed Route Study Area (Exh. EN-2, at 5-16).[33] Figure 8 illustrates the conservation land ownership around the Southeastern Massachusetts Bioreserve.

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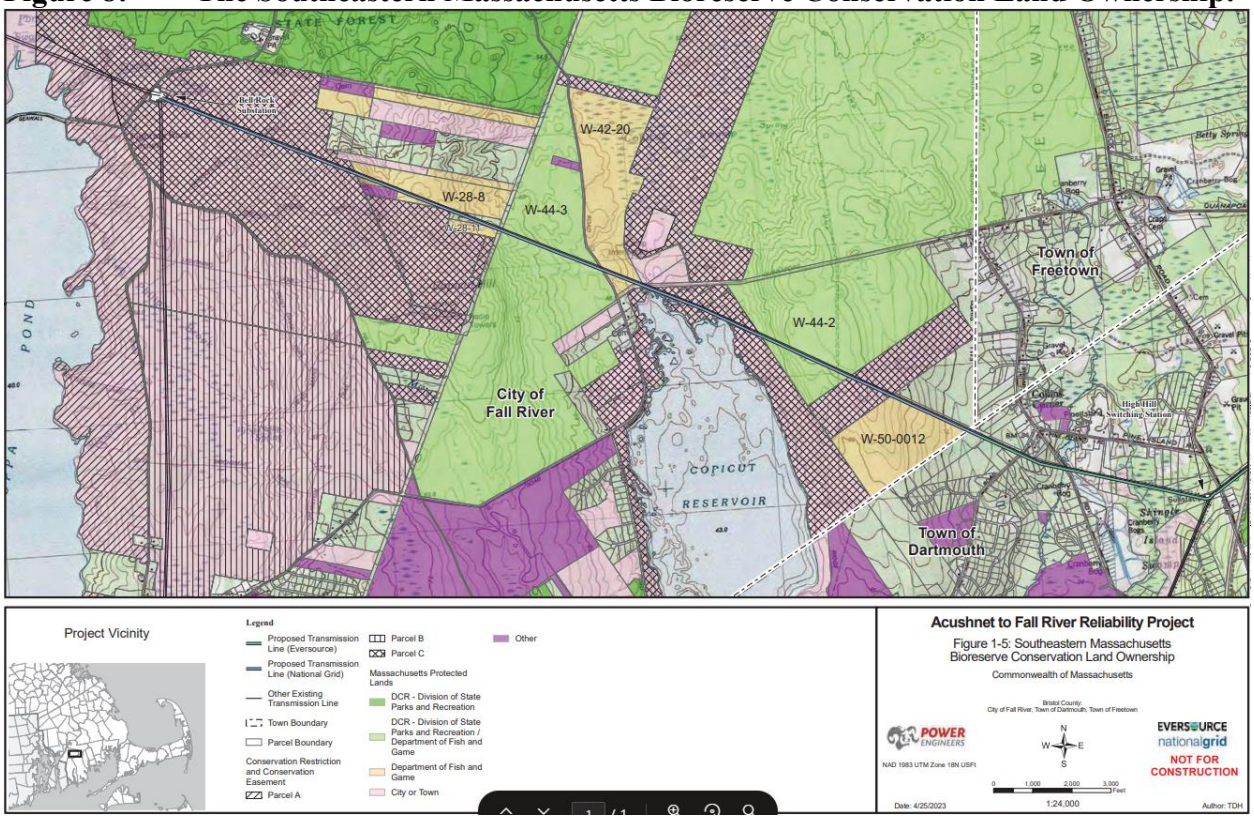
[32] The Bioreserve is a 13,500-acre protected open space, jointly managed by the City of Fall River Water Division, DCR, the Massachusetts Division of Fisheries and Wildlife, and the Trustees of Reservations (Exh. EN-2, at 5-16). The Companies stated that due to National Grid's preexisting easement (and rights and obligations therein, including access to the ROW), the construction of the New Line within the Proposed Route ROW across the Southeastern Massachusetts Bioreserve would not require a DCR Construction and Access permit (Exh. EN-4, at 25).

[33] The Companies stated that the construction of the New Line across the Acushnet Cedar Swamp would require a permit from DCR but not an Article 97 land disposition because the Companies' easement predates the establishment of the Acushnet Cedar Swamp State Reservation, while DCR ownership of the land predates both (Exh. EN-4, at 24). Eversource indicated that DCR would grant Eversource a Construction Access Permit for Project construction in the ROW intersecting with the Acushnet Cedar Swamp Reservation (Tr.1, at 46-47). This would be incorporated into the final USEPA construction general permit, electronic notice of intent, and the SWPPP associated with that permit (Tr. 1, at 48).

Figure 8: The Southeastern Massachusetts Bioreserve Conservation Land Ownership.



Source: Exh. EN-4, App. B, Fig. 1-5.

There are also three properties of protected open space within the Proposed Route Study Area that are protected for water supply. See Section VI.D.2 for discussion about impacts on water resources. The Companies contend that potential temporary impacts to open space and recreational lands along the route could occur during the improvement of access roads, use of heavy machinery on access roads, and the temporary use of equipment on work pads and construction mats (Exh. EN-2, at 5-17). Regarding Substation Work, the Companies stated that there would be no changes to protected open space and recreational lands given that the upgrades would take place on the Companies' lands, currently serving existing utility purposes (Exh. EN-2, at 5-17).

The Companies stated that, by locating the New Line within an existing transmission line ROW, they would minimize impacts to adjacent open spaces (Exh. EN-2, at 5-17). For mitigation of temporary disturbances to protected lands and open space, including existing trail systems, the Companies would provide notification of the intended construction plan and

schedule to any affected abutters, as part of the Outreach Plan, and coordinate with affected stakeholders to include safety signage and temporary detours around active construction zones (Exh. EN-2, at 5-17). With the implementation of these mitigation measures, the Companies argue that the Project's impacts on protected lands and open space would be minimized (Companies Brief at 89, citing Exh. EN-2, at 5-17).

iii. Historical and Cultural Resources

The Companies stated that its historical and cultural resources consultant, Public Archaeological Laboratory ("PAL"), recorded 27 archaeological sites within a cultural resources study area for the Project ("PAL Study Area") (Exh. EN-2, at 5-18).[34] The Companies stated that the construction within the Proposed Route ROW would have the potential to impact archaeological sites, depending on the depth and extent of planned ground disturbance in relation to archaeological resources (Exh. EN-2, at 5-19). PAL had also identified 15 historic architectural properties within the PAL Study Area and recommended that the Project would not affect any historic properties, including any impacts to the existing viewshed from abutting above-ground resources (Exh. EN-2, at 5-18 to 5-19). Regarding Substation Work, the Companies stated one archaeological site had been previously recorded within the PAL Study Area, but the upgrades themselves would take place within the footprint of each substation, which had been previously disturbed; therefore, substation upgrades would not have any anticipated impacts on the archaeological site (Exh. EN-2, at 5-18). There are no previously recorded historic architectural properties near the three substations (Exh. EN-2, at 5-18).

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[34] PAL conducted a search of the Massachusetts Historical Commission *Inventory of the Historic and Archaeological Assets of the Commonwealth*, which includes resources that are listed in the NRHP or are eligible for listing (Exh. EN-2, at 5-18). An eligible resource must exhibit physical integrity, contribute to our understanding of American history, architecture, archaeology, technology, and/or culture and demonstrate at least one of the following four criteria: (1) Association with important historic events; (2) association with important persons; (3) distinctive design or physical characteristics; or (4) potential to provide important new information about the pre-contact, contact, or historic periods of history (Exh. EN-2, at 5-18).

According to the Companies, the Project would be subject to review under Section 106 of the National Historic Preservation Act (36 CFR Part 800, "Section 106") and would require a permit from the United States Army Corp of Engineers ("USACE") (Exh. EN-2, at 5-19). Moreover, the Project would be subject to review by the Massachusetts Historical Commission ("MHC") under G.L. c. 9, §§ 26–27C (Exh. EN-2, at 5-19). As part of these reviews, the Companies would coordinate with the USACE and MHC to avoid and/or minimize adverse effects to any National Register of Historic Places ("NRHP")-eligible or listed cultural resources (Exh. EN-2, at 5-19). As part of the USACE Section 404 permit review and pursuant to Section 106, the USACE would also consult with federally recognized Native American Indian Tribes that express an interest in the cultural resources that might be affected by those portions of the Project (Exh. EN-2, at 5-19). The Companies stated that any protection or avoidance measures required to avoid or minimize impacts to significant resources would be outlined in an Avoidance and Protection Plan with procedures to handle unanticipated discoveries during construction specified as part of a Post Review Discoveries Plan (Exh. EN-2, at 5-19). The Companies argue that the Project impacts to historic and archeological resources would be minimized (Companies Brief at 91).

iv. Tree Removal

For Project construction, the Companies would remove 27.47 acres of trees—25.3 acres of forested upland and 2.17 acres of forested wetland, from the Companies' ROW (Exh. EN-2, Table 5-6)[35] The tree removal would primarily occur along approximately 4.2 miles of the National Grid's portion of the Proposed Route ROW in Fall River, to a width of approximately 60 feet on the south side of the ROW from the Dartmouth/Fall River municipal line west to the Bell Rock Substation, including part of the ROW within the Southeastern Massachusetts Bioreserve (Exhs. EN-2, at 5-4 to 5-5; CNA-E-8). The Companies noted that National Grid's

[35] As noted in Section VI.C.1.c, one of three off-ROW access road sections would require tree removal to avoid a wetland. The Companies also noted that off-ROW tree removal for access road, line stringing sites, and staging areas may involve additional acres of forested land (Exh. EN-2, at 5-20).

easement predated the Southeastern Massachusetts Bioreserve and, accordingly, National Grid has prior rights to keep the ROW clear of trees, underbrush, and structures up to its full width of 150 feet (Exhs. CNA-E-8; CNA-G-3).

The Companies emphasized that, besides Project construction, tree removal and pruning are necessary to maintain required clearances between vegetation, the transmission line structures, and conductors for reliable operations of the transmission facilities (Exhs. EN-2, at 5-4; CNA-E-6; EFSB-V-8). In addition to tree removal within the Proposed Route ROW, the Companies would identify any trees that are just outside the edge of the Proposed Route ROW but might pose a hazard to the New Line, which the Companies would classify as either a "danger tree" or "hazard tree" (Exh. EN-2, at 5-5, 5-19). The Companies would obtain permission from individual property owners and address their concerns before performing tree pruning or removal of these trees (Exh. EN-2, at 5-5). The Companies stated that the proposed tree removal would result in permanent conversion of forested uplands to shrub lands or grasslands, and forested wetlands to scrub-shrub or emergent wetlands (Exh. EN-2, at 5-19). However, the Companies contend that these habitat changes could provide a benefit to wildlife by providing field and thicket habitat that was once common but has been depleted due to suburban sprawl and development and reforestation of abandoned agricultural areas (Companies Brief at 92, citing Exh. EN-2, at 5-19). The Companies maintain that such habitat changes would not substantially reduce the capacity of the area to provide important wildlife habitat functions consistent with current conditions (Exh. EN-2, at 5-19). Lastly, the New Line would not result in more than a *de minimis* increase in impervious surfaces; therefore, the New Line would not require the use of low impact development techniques or Integrated Management Practices to control additional stormwater (Exh. EN-4, at 55).

v. Rare Species and Habitats

Using MassGIS to analyze the Massachusetts NHESP Priority Habitats of Rare Species data, the Companies determined that Project construction would have direct impact on Priority

Habitats (Exh. EN-2, at 4-17, 5-23).[36] The Companies identified approximately 142 acres of Priority Habitat within the Proposed Route ROW (Exh. EN-2, at 5-23; Tr. 1, at 148-49). This total represents 56 percent of the land area within the Proposed Route ROW and covers the entire area where proposed tree removal would occur (Exh. EN-2, at 5-23). According to the Companies, this result warranted a Massachusetts Endangered Species Act ("MESA") Review by the NHESP, as well as an Endangered Species Act Section 7 Consultation with the United States Fish and Wildlife Service ("USFWS") (Exh. EN-2, Table 6-1).[37]

During the Massachusetts Environmental Policy Act ("MEPA") review process by the NHESP, its staff review a proposed action to determine whether it would impact state-listed species and their habitats (Exh. EN-2, at 5-23). If it is determined that a proposed action would result in a "take" and could not be revised to avoid the take, then the proponent must file for the issuance of a Conservation and Management Permit ("CMP") and the proposed action must meet the performance standards for that CMP, including the avoidance and minimization of impacts on state-listed species to the greatest extent practical and provide a long term net benefit to the conservation of the local population of the impacted species (Exhs. EN-2, at 5-23; EN-4, at 17-18).

Although the Companies designed the New Line to use the existing transmission line corridor and existing access roads to the extent practicable, the Companies indicated that certain impacts to wildlife could not be avoided (Exh. EN-4, at 56). The Companies anticipated the construction of the New Line to have: (1) temporary impacts from the placement of construction mats used for equipment access and staging during construction; (2) permanent impacts from the installation of select new access roads, stone/gravel work pads in uplands, and new transmission line structures; and (3) secondary impacts from the conversion of forested habitat to scrub-shrub, emergent, or herbaceous habitats as a result of the proposed 27.5 acres of tree removal (Exh. EN-4, at 56).

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[36] Priority Habitat is based on the known geographic extent of habitat for all state-listed rare species, both plants and animals, and is codified under the MESA. See https://www.mass.gov/info-details/regulatory-maps-priority-estimated-habitats.

[37] See https://www.mass.gov/info-details/ma-endangered-species-act-mesa-overview.

The Companies contend that, while some wildlife habitat functions associated with forested areas would be permanently altered as a result of tree clearing, the Companies' restoration of the Proposed Route ROW would create the increasingly scarce scrub-shrub habitat, while post-construction stabilization and restoration of the Proposed Route ROW would facilitate natural revegetation and reestablish available wildlife habitats on the Proposed Route ROW (Companies Brief at 89, citing Exh. EN-2, at 5-17). The Companies do not anticipate the Project's long-term operation and maintenance or the Companies' other maintenance activities within the Proposed Route ROW would have adverse impacts on rare species when conducted in compliance with the CMPs and in accordance with the Companies' Operation and Maintenance Plans as approved by the NHESP (Exh. EN-4, at 58; Companies Brief at 99-100).

As for the Substation Work, the Companies did not anticipate additional rare species impacts at the three substations—the Tremont and Acushnet Substation are not located within any identified rare species habitats, and, while the Bell Rock Substation is, the proposed construction work there would take place within the previously disturbed and developed substation site (Companies Brief at 98, citing Exh. EN-2, at 5-23).

The Companies assert that the Project would leave large blocks of intact woodland adjacent to the Proposed Route ROW, and that some habitat impacts would be temporary, or potentially beneficial (Companies Brief at 95, citing Exh. EN-2, at 5-20 to 5-21).

(A) State-Listed Species

The Companies filed a MESA Project Review Checklist in 2018, and the MESA review and coordination with NHESP has included meetings to finalize required species-specific protection plans, mitigation, and additional elements of the CMPs (Exhs. EN-2, Table 6-1; EN-4, at 56-58). According to Companies, NHESP identified nine state-listed species within the vicinity of the Project, as described below and summarized in Table 18 (Exh. EN-4, at 56-58).

- Eastern Box Turtle: The Companies stated that, due to the tree clearing, access road improvements, and New Line design at the pipeline crossing dictated by safety requirements, full avoidance of the eastern box turtle is not feasible, and the Project is likely to result in a "take" of this species (Exh. EN-4, at 56-57). Therefore, NHESP requires the Companies to develop a mitigation program for the eastern box turtle as a condition for a CMP, which would need to include net benefit provisions (Exh. EN-4,

at 57).

The Companies contend that its proposed implementation of a mortality avoidance plan, also known as a protection plan, within the Proposed Route ROW would ultimately diversify the habitat for eastern box turtle within the context of ±12,000 acres of intact and protected forest lands adjacent to the Proposed Route ROW, resulting in a compelling net benefit for this species (Exh. EN-4, at 58; Companies Brief at 100). The Companies noted that significant work has been done to identify turtle habitat, including the use of radio telemetry, which the Companies would continue to use to identify species for avoidance during the Project construction (Exh. EN-4, at 57). Moreover, the Companies are also exploring other habitat enhancements within the Proposed Route ROW, including creating and maintaining exposed soil for turtle nesting areas (Exh. EN-4, at 59).

The Companies stated that land preservation through on-site or off-site conservation restrictions at a specified ratio for the habitat acreage lost is a preferred mitigation method when a "take" of a state-listed species is unavoidable (Exh. EN-4, at 59). Since National Grid holds easement rights rather than land ownership over most of the Proposed Route ROW, conservation restrictions over appropriate habitat would not be possible (Exh. EN-4, at 59). Consequently, the Companies anticipate that a contribution to the Nature Conservancy's Box Turtle Enhanced Mitigation Fund would serve as a component of the net benefit to eastern box turtle, for an appropriate amount to be determined between the Companies and NHESP that may be used for, but is not limited to, research studies, off-site habitat enhancements or land banking/preservation (Exh. EN-4, at 59).

- Two Grass and One Herbal Species: Based on previous botanical surveys, the Companies anticipated that the Project would result in a "take" of long-leaved panic grass, rigid flax and Philadelphia panic grass (Exh. EN-4, at 56-57). Like the eastern box turtle, NHESP required the Companies to develop mitigation programs for these plant species as a condition for a CMP (Exh. EN-4, at 57-58). The Companies proposed to implement a program involving seed collection and redistribution, with localized habitat management and post-Project monitoring, to minimize the level of "take" and provide a net benefit to the local populations (Exh. EN-4, at 57-58). Prior to construction, the Companies would conduct another round of survey on the distribution of annual species to reconfirm and/or re-delineate the extent of plant populations previously documented (Exh. EN-4, at 56).

- Whip-poor-will: The Companies stated that two seasons of whip-poor-will breeding surveys indicated that the species is present to the south of the ROW in Fall River, particularly on two consistent sites with whip-poor-will breeding activities present in both years and an additional site occupied in 2020 (Exh. EN-4, at 57). Through discussions with the NHESP, the Companies concluded that standard mitigation measures and time of year tree removal restrictions would avoid a "take" of the eastern whip-poor-will, and, thus, preclude the requirement for a whip-poor-will CMP (Exh. EN-4, at 57-58).
- Marbled Salamander: The Companies stated that documented breeding habitat for marbled salamander was remote from the area of proposed tree removal and no other breeding habitat for marbled salamander, aquatic or terrestrial, was identified within or adjacent the Proposed Route ROW and, therefore, the Companies did not anticipate the Project would result in a "take" of this species (Exh. EN-4, at 57-58).
- Common Loon: While the common loons have been documented in the Copicut Reservoir in Fall River and were confirmed to have nested in 2020 and successfully raised a loon chick, the Companies noted that the nesting location was never confirmed (Exh. EN-4, at 58). While the Companies did not anticipate the Project would result in a "take" of this species, National Grid has been coordinating with the Massachusetts Division of Fish and Wildlife ("DFW") and NHESP to identify any recommended species-specific avoidance and minimization measures and determine BMP for this species (Exh. EN-4, at 58).
- Other Plant Species: For the two other state-listed plant species that had been located in the vicinity of the Proposed Route ROW, the Companies anticipated that avoidance of these species could be achieved during Project construction and, thus, would not result in a "take" of these species (Exh. EN-4, at 57-58).

Table 18: State-listed Species in the Vicinity and Project's Potential for a "Take."

Common Name	Scientific Name	Taxonomic Group	State Status	Project's Potential for Resulting in a "Take"
Common Loon	*Gavia immer*	Bird	Special Concern	Unlikely
Eastern Box Turtle	*Terrapene carolina*	Reptile	Special Concern	**Likely**
Eastern Whip-poor-will	*Caprimulgus vociferus*	Bird	Special Concern	Unlikely*
Grass-leaved Ladies' Tresses	*Spranthes vernalis*	Plant	Threatened	Unlikely
Long-leaved Panic-grass	*Coleataenia longifolia* ssp *longifolia*	Plant	Threatened	**Likely**

Marbled Salamander	*Ambystoma opacum*	Amphibian	Threatened	Unlikely
Philadelphia Panic-grass	*Panicum philadelphicum* ssp. *Philadelphicum*	Plant	Special Concern	**Likely**
Rigid Flax	*Linum medium var.texanum*	Plant	Threatened	**Likely**
Weak Rush	*Juncus debilis*	Plant	Endangered	Unlikely

Source: Exh. EN-4, at 57-58, Table 5-1.
* Unlikely with the implementation of standard mitigation measures and time-of-year tree removal restrictions (Exh. EN-4, at 57).

In response to CNA-submitted testimony on observed sightings, National Grid performed a visual site inspection along the corresponding section of Proposed Route ROW to evaluate whether there were eagle nests, and also consulted with the State Ornithologist at DFW and NHESP regarding the Project, neither of which resulted in a positive finding (Exh. EFSB-G-6). National Grid subsequently informed CNA of these consultations and committed to keep CNA informed of any changes to the current Project plans (Exh. EFSB-G-6).

(A) Federal-Listed Species

The Companies stated that they completed the Section 7 Endangered Species Act consultation with USFWS and United States Marine Fisheries, and the Companies have continued actively coordinating with the USFWS regarding federally listed species present in the Project area (Exhs. EN-2, Table 6-1; EN-4, at 56).

(B) Mitigation

As mitigation for important wildlife that might be impacted as a result of tree removal and construction activities, the Companies would provide mitigation measures including seeding, planting of native shrub species, and creation of snags, woody debris, and stone piles to create wildlife cover (Exhs. EN-2, at 5-50; EFSB-CM-19). In addition to applying for and securing the CMPs, the Companies also proposed mitigation including, but is not limited to, the following: (1) require training for all construction personnel; (2) install signage along the ROW alerting work crews to rare species habitats; (3) install construction fencing along the ROW alerting work

crews to rare plant occurrences adjacent to the work area(s); (4) perform extensive sweeps prior to construction and monitoring during construction; (5) monitor animals in the vicinity of active construction via radiotelemetry; (6) implement species-specific protection plans; and (7) conduct habitat restoration and enhancement post-construction (Exh. EN-4, at 58).

With the implementation of these mitigation measures, the Companies argue that the Project's impacts on rare species and their habitats would be minimized (Companies Brief at 100, citing Exh. EN-2, at 5-24).

b. Positions of the Parties

i. CNA

CNA contends that wetland mats are not sufficient to protect rare species habitat in the Southeastern Massachusetts Bioreserve, including the common loon (CNA Reply Brief at 3). CNA described the Southeastern Massachusetts Bioreserve as a one-of-a-kind migratory bird sanctuary in southeastern Massachusetts that also harbors many other species (Exh. CNA-E-1; CNA-PFT-3, at 8). Specifically, CNA stated that there is a heavy presence of common loons, bald eagles, and eastern whip-poor-will on the Copicut Reservoir, which is surrounded by the Bioreserve on three sides (Exh. CNA-E-1; CNA-PFT-3, at 3-8).[38] CNA provided documentation including various images and sound recordings of these species on and around the lake, including in areas near the Proposed Route ROW, but was unable to provide documentation and locations of their nesting sites (Exh. CNA-E-1; CNA-PFT-3, at 3-8).

CNA stated that Copicut Reservoir was formally classified as a Tier 1 common loon habitat, being the first water body to sustain a breeding loon pair successfully in the south coast of Massachusetts in over 100 years, which occurred in 2020 and was part of the common loon translocation project administered by Maine-based Biodiversity Research Institute ("BRI") (Exh. CNA-E-1; CNA-PFT-3, at 3-4). CNA has been involved with the translocation project since the

[38] Beyond the Copicut Reservoir, the Southeastern Massachusetts Bioreserve spans east across the boundary between Fall River and Freetown, south across the boundary between Fall River and Dartmouth, west to the eastern bank of Watuppa Pond, and north almost to the Assonet River (Exh. CNA-E-1; CNA-PFT-3, at 10).

banding of the loon pair in 2020 (Exh. CNA-E-1; CNA-PFT-3, at 3). CNA stated that BRI expected the 2020 common loon pair and chick to return to Copicut Reservoir in the 2024 spring-summer season (Exh. CNA-E-1; CNA-PFT-3, at 3-4).

CNA argues that, according to Lucas Savoy, Wildlife Research Biologist at BRI, the most sensitive time for loons is the pre-breeding period in April and breeding period from May to June (Exh. CNA-E-1; CNA-PFT-3, at 4). Consequently, CNA alleges that noise disturbances and construction on the north bank of the reservoir are likely to be disruptive to breeding activities (Exh. CNA-E-1, CNA-PFT-3, at 4). CNA refutes the Companies' statement that it did not anticipate any adverse impacts to any threatened, endangered, or species of special concern, such as the common loon (Exh. CNA-E-4(1); CNA Brief at 6, citing Exh. CNA-E-2). CNA also disputes the Companies' characterization of Mr. Savoy as no longer being active in studying common loons around the Copicut Reservoir after the completion of the translocation project (Exh. CNA-E-2).

ii. Companies' Response

The Companies argue that they thoroughly analyzed and minimized potential impacts to rare species habitat, and proposed mitigation where warranted, all based on the expertise of the Companies qualified biologists and ongoing consultations with NHESP (Companies Reply Brief at 6, citing Tr. 2 at 175, 177). The Companies argue that the NHESP did not identify any specific concern regarding the Project's potential impacts on the common loon (Companies Reply Brief at 6, citing Exh. EN-5, at 29-31). The Companies contend that they would do far more than use wetland mats for protection of rare species (Companies Reply Brief at 6). For example, the Companies assert, that in consultation with NHESP, they will adopt tracking and protection of certain species, funding of programs that directly benefit the affected species, and establish onsite or offsite habitat protection and restoration (Companies Reply Brief at 6). Moreover, the Companies argue that the proposed re-vegetation along the northern edge of the Copicut Reservoir includes shrubs that provide wildlife habitat and grow upwards of 12-15 feet in height, contradicting CNA's concern that the Project would create an open beachfront on the reservoir (Companies Reply Brief at 5, citing Tr. 2, at 230-231).

c. Analysis and Finding

i. Land Use

The record shows that the Project and its construction would be limited to within an existing transmission line ROW (i.e., the Proposed Route ROW), which would be consistent with the current use of the ROW as a transmission corridor, and three existing substations, with construction occurring within existing fence lines. Except for three instances of off-ROW access roads with limited associated land use impacts, the record shows that the Project would not require any changes to existing land use, additional easements, or property acquisitions. While there would likely be some construction impacts to surrounding land uses, the record also shows that there would be no permanent direct land use impacts on residential properties abutting or in proximity of the Proposed Route ROW, nor on two identified sensitive receptors that are more than 100 feet away from the centerline of the ROW and more than 25 feet from the southern edge of the ROW. The Companies indicated they would, if allowed by property owners, install gates or barriers at ROW access points to restrict access onto ROW by unauthorized persons or vehicles.

The record shows that the Companies will develop and execute an Outreach Plan to keep property owners, businesses, and municipal officials, including fire, police, and emergency personnel, updated on planned construction activities. The Siting Board directs the Companies to submit to the Siting Board the Outreach Plan at least 60 days prior to the start of the Project construction. With this condition, the Siting Board finds that the Project's land use impacts would be minimized.

ii. Protected Land and Open Space

The record shows that there are 14 properties with protected lands and open space within 300 feet of the Proposed Route ROW, of which eleven overlap with the ROW. The Companies anticipate the majority of the impacts on these properties would be temporary disturbances during the Project construction, with the exception of 27.5 acres of proposed tree removal within the Southeastern Massachusetts Bioreserve. The record shows that the Companies' easement predates the establishment of the Southeastern Massachusetts Bioreserve, and the Companies

have the right to keep the ROW clear of trees and underbrush up to the full ROW width of 150 feet. The record indicates that tree removal will change the habitat into scrub-shrubs and emergent wetlands which would maintain the capacity of the area to provide important wildlife habitat functions. Tree removal impacts and impacts on rare species and their habitats are further discussed in Sections VI.D.1.c.iv, and VI.D.1.c.v, respectively, with required mitigation conditions imposed by the Siting Board. The record shows that the Substation Work, which would take place within the existing substations, would not have impacts on protected lands and open space. As the Project construction would take place within the Proposed Route ROW, temporary disturbances would mainly consist of interruption to recreational use and trail detours around work zones. Moreover, the Companies have reached out to public and private owners and administrators of protected lands and open space. The record shows that the Companies will also incorporate mitigation of temporary disturbances to protected lands and open space, including coordination with and notification of stakeholders, in the Outreach Plan. Temporary impacts on nearby water supply lands and corresponding mitigation are addressed in Section VI.D.2. Accordingly, the Siting Board finds that the Project impacts to protected lands and open space would be minimized.

iii. Historic and Cultural Resources

The record shows that Project construction within the Proposed Route could have impacts to underground historic and cultural resources, depending on the depth and extent of the excavation, but would have no impacts on above-ground historic architectural properties that abut the ROW, including the existing viewsheds from these resources. While the Companies identified one archeological site within the Study Area at a substation, the Substation Work would take place within the previously disturbed the substation site and would not have an impact on the archeological site, or any above-ground historic architectural properties. The Companies are coordinating with USACE and MHC in reviewing the Project, identifying potential impacts to historic and cultural resources, and developing corresponding mitigation, pursuant to Section 106 of the National Historic Preservation Act, which would also involve consultation with federally recognized Indigenous Tribes. The record shows that any measures

required to avoid or minimize impacts to significant resources would be outlined in an Avoidance and Protection Plan and procedures to handle unanticipated discoveries during construction would also be specified as part of a Post Review Discoveries Plan. The Siting Board directs the Companies to submit to the Siting Board a copy of the final Avoidance and Protection Plan and, if any, Post Review Discoveries Plan, whenever they become publicly available. With this condition, the Siting Board finds that the Project's impacts on historic and cultural resources would be minimized.

iv. Tree Removal

The record shows that the Project would require tree removal to maintain required clearances between vegetation and the transmission line structures and conductors for reliable operation of the transmission facilities. In particular, the Project would include 27.5 acres of tree removal of forested upland and wetland within the National Grid's portion of the Proposed Route ROW. Except for a small amount of land that would be permanently converted into impervious surfaces—e.g., transmission line structure foundations, access roads—the Companies would maintain the deforested upland as scrub-shrub and deforested wetlands as emergent wetlands. Beyond the Proposed Route ROW, the Companies may remove additional trees for access roads, line stringing sites, staging areas, as well as "danger trees" and "hazard trees." While the Companies have the right to keep the full width of the Proposed Route ROW clear of trees and underbrush, they will implement mitigation measures for both the tree removal operation and post-removal stabilization, to safeguard natural habitats and wetlands, including planting low-growing shrub along the northern edge of the Copicut Reservoir. The Companies acknowledge that some wildlife habitat functions associated with forested areas may be altered as a result of tree removal. However, the Companies also note that these areas would be replaced by valuable scrub-shrub habitat and experience natural revegetation on the ROW that would re-establish available wildlife habitat.

The Siting Board finds the Project's tree removal impacts would be minimized with the following conditions:

- The Siting Board directs the Companies to submit to the Siting Board, at least 60 days prior to the start of the Project construction, a report of any additional tree removal,

beyond the 27.5 acres within the Proposed Route ROW, as well as removal of danger trees and hazard trees, required for the Project construction, and corresponding mitigation measures for this tree removal. In addition, the Companies consultations with NHESP and USACE may include planting trees elsewhere.

- The Siting Board directs, as specified in the SEIR Certificate, the Companies (and National Grid in particular) to implement best forestry mitigation practices during tree removal and vegetation removal, including the use of site-specific forestry means and methods to minimize environmental impacts.
- The Siting Board directs the Companies to submit to the Siting Board a description of NHESP- and USACE-required tree re-planting mitigation, including the location and area where re-planting would take place, when these requirements are finalized.
- The Siting Board directs the Companies to comply with the stormwater management and erosion control requirement of the approximately 6,524 linear feet of new access road spurs, as reflected in the Project's SWPPP and Soil Erosion and Sedimentation Plan.

v. Rare Species and Habitats

The record shows that the Project's impact on rare species habitats generally would be limited to the construction of the New Line, and primarily temporary except for limited areas of new access roads, stone/gravel work pads in upland, and new transmission line structures. The Project would have secondary impacts from the conversion of forested habitat to scrub-shrub and emergent habitats. The Companies contend that, due to large blocks of intact woodland adjacent to the Proposed Route ROW, most of the wildlife displaced by Project construction would be temporary and such wildlife would return after the construction is complete. There are no anticipated impacts on rare species and their habitats from the Substation Work, given that they would take place within the existing substation fencelines.

The record shows that there are nine identified state-listed species associated with the approximately 142 acres of Priority Habitat within the Proposed Route ROW (constituting 56 percent of the Proposed Route ROW and encompassing the entire 27.5 acres of proposed tree removal). Construction of the Project could result in the "take" of the eastern box turtle and three plant species (long-leaved panic grass, rigid flax and Philadelphia panic grass). The record also describes that the potential take of the eastern whip-poor-will could be avoided through the implementation of standard mitigation measures and time of year tree removal restrictions.

Given the potential for a "take" of some species during construction, the Companies developed species-specific mitigation programs for a CMP for the Project, with provisions to show a net benefit to each state-listed species. The mitigation program for eastern box turtle would involve: (1) a protection plan that the Companies argue would ultimately diversify the turtle's habitat within the intact and protected forest lands adjacent to the Proposed Route ROW; (2) habitat enhancements within the Proposed Route ROW, including creating and maintaining exposed soil for turtle nesting areas; and (3) an anticipated contribution to the Nature Conservancy's Box Turtle Enhanced Mitigation Fund. The mitigation programs for the three plant species would involve seed collection and redistribution, localized habitat management, and post-Project monitoring, as well as another round of survey on the distribution of annual species to confirm and re-delineate the extent of plant populations previously documented.

In addition, the Companies will implement additional measures, including but not limited to: (1) requiring training for all construction personnel; (2) installing signage along the ROW alerting work crews to rare species habitats; (3) installing construction fencing along the ROW alerting work crews to rare plant occurrences; (4) performing extensive sweeps prior to construction and monitoring during construction; (5) monitoring animals in the vicinity of active construction via radiotelemetry; (6) implementing species-specific protection plans; and (7) conducting habitat restoration and enhancement post-construction. The Companies will continue their coordination with federal, state, and local agencies in order to minimize impacts on rare species and habitats. The record shows that after construction, the long-term operation and maintenance of the Project in accordance with the Companies' Operation and Maintenance Plans as approved by the NHESP would not have adverse impacts on rare species.

While the record demonstrates the Companies' effort in limiting the extent of the rare species and habitat impacts for state-listed species, the record also shows that the Companies have consulted with the USFWS and United States Marine Fisheries pursuant to Section 7 of the Endangered Species Act regarding federally listed species present in the Project area. Regarding CNA's contention that the presence of the common loon and other rare species were not identified by NHESP near the Proposed Route ROW, the Siting Board acknowledges CNA's testimony on the matter but notes that the record (including NHESP data) does not adequately

support CNA's position. Nevertheless, the record shows that the Project's impacts on the common loon, if they were to occur, would be temporary and could be avoided through the Companies' mitigation and the common loon's self-avoidance of the disturbed area. Moreover, the record reflects that National Grid is coordinating with DFW and NHESP to identify any recommended species-specific avoidance and minimization measures and determine BMP for this species.

Given that the Companies have complied with MESA and the federal Endangered Species Act, and that the Companies would continue coordinating with state and federal agencies in mitigating impacts on rare species and their habitats, the Siting Board finds that the Project's impacts on rare species and their habitats would be minimized with the following additional conditions:

- The Siting Board directs the Companies to provide to the Siting Board, at least 60 days prior to the start of construction, confirmation that they will implement a time of year restriction on tree removal to avoid a "take" of the eastern whip-poor-will, including a letter of acknowledgement from NHESP.
- The Siting Board directs the Companies to submit to the Siting Board the CMP approval, including any NHESP-imposed conditions and corresponding species-specific protection plans, when available.
- The Siting Board directs the Companies to submit to the Siting Board an account of the finalized mitigation measures and BMPs for the common loon from the Companies' consultation with DFW and NHESP.

2. Water Resources and Wetlands

a. Companies' Description

i. Water Resources including Public Water Supplies

The Companies' Proposed Route would traverse wetlands that have been designated as tributaries to the Class A Water Supplies[39] of the North Watuppa Pond and the Copicut

[39] MassDEP had established a category of waterbodies known as ORWs for high quality waters with socioeconomic, recreational, ecological, and/or aesthetic values, which include Class A Public Water Supplies and their tributaries (Exh. EN-2, at 5-24). Class A waters, considered best for public water supply, habitat for fish/wildlife, and recreation, can be designated by MassDEP as ORWs (Exh. EN-2, at 5-24).

Reservoir, which are also Outstanding Resource Waters ("ORWs") (Exh. EN-2, at 5-24). The Proposed Route also traverses open water areas along the northern boundary of the Copicut Reservoir but not across the North Watuppa Pond (Exh. EN-2, at 5-24). Approximately 189.3 acres of the Copicut Reservoir ORW and approximately 86.2 acres of the North Watuppa Pond ORW are located within the Proposed Route ROW (Exh. EN-2, at 5-24).

While the Proposed Route crosses the Long Pond/Assawompset Pond/Pocksha Pond ORW, the surface waters of these resources are located over three miles to the north of the Proposed Route (Exh. EN-2, at 5-24). Beyond the Copicut Reservoir ORW and North Watuppa Pond ORW, an approximate 16.8 acres of high-yield aquifers and approximately 157.2 acres of medium-yield aquifers are located within the Proposed Route ROW (Exh. EN-2, at 5-24). There are no wellhead protection areas located proximate to the Proposed Route (Exh. EN-2, at 5-24). Although the northeastern portion of the Tremont Substation site is associated with a medium-yield aquifer and the Acushnet Substation is located in the vicinity of medium- and high-yield aquifers located approximately 50 feet to the northwest, the Companies anticipated no impacts to public water supplies as the Substation Work would take place within previously disturbed and developed substation sites (Exh. EN-2, at 5-24 to 5-25).

The Companies anticipated no impact on public water supply resources from the normal operation and maintenance of the transmission line facilities following construction (Exh. EN-2, at 5-25). Despite their efforts to avoid ORWs when locating the proposed transmission line structures and work areas (all within the Proposed Route ROW), the Companies stated that ORWs could not be avoided in certain locations (Exh. EN-2, at 5-25). The Companies anticipated that the Project construction would cause unavoidable temporary impacts to vegetated wetland resources within the Copicut Reservoir and North Watuppa Pond watersheds, as well as temporary wetland impacts within 400 feet of the Copicut Reservoir due to the proximity of the Proposed Route ROW to the northern end of the reservoir (Exh. EN-2, at 5-25). Temporary construction impacts would include vegetation removal, excavation for pole structures, work pads, and access road construction (Exh. EN-2, at 5-22).

The Companies would implement mitigation measures including (1) temporary construction mats; (2) sensitive vegetation removal techniques including by hand;

(3) compliance with requirements of a Stormwater Pollution Prevention Plan ("SWPPP") and relevant regulations such as National Pollutant Discharge Elimination System ("NPDES") Construction General Permits administered by the U.S. Environmental Protection Agency ("USEPA"), and restrictions applied by the local conservation commissions;[40] (4) sediment and erosion control, as laid out in a Soil Erosion and Sedimentation Plan, which would be included as part of the SWPPP; (5) spill prevention and response; (6) contractors' adherence to BMPs regarding the storage and handling of oil and potentially hazardous materials and emergency response plans; and (7) proper maintenance of equipment (Exhs. EN-2, at 5-25; EFSB-W-5; EFSB-W-7; CNA-E-10). During construction, the Companies would employ qualified environmental inspectors to regularly review the Project site for compliance with applicable environmental permit conditions and approvals and identify any inadequate control and management for stormwater, including failing BMPs, for correction (Exh. CNA-E-10).[41]

The Companies are coordinating with MassDEP and the Superintendent of the Watuppa reservation to identify and implement appropriate mitigation measures to address potential impacts to surface water resources and ORWs (Exh. EN-2, at 5-25 to 5-26). For vegetation management within sensitive areas, including public water supply areas, the Companies would follow the same procedure as currently used on the ROW and described in the Companies' BMPs, including no herbicide applications within ORWs (Exh. EN-2, at 5-25). The Companies would pump any dewatering effluent to an upland area that is as far away from receiving water as possible through a dewatering basin so that the discharge would be filtered and infiltrate back to the ground (Tr. 1, at 128-129; Exh. EN-2, at 5-7). If the Companies were unable to prevent the dewatering discharge from flowing directly to a receiving water, the Companies would

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40 The Companies intend to prepare and submit a SWPPP along with their NPDES application to receive coverage under the Construction General Permit before construction (Exh. EFSB-W-6).

41 The Companies stated that the Companies would send these out these inspectors on a weekly basis at a minimum, with increased frequency in certain instances such as the discovery of rare species around the work site, which would be the case for the National Grid's portion of the Project given the known presence of the eastern box turtle and proximity to the public water supply (Tr. 1, 124-127).

monitor turbidity in accordance with the USEPA NPDES permit throughout the dewatering process (Tr. 1, at 127-128). The Companies state that the potential impacts of the Project to public water supplies would be minimized with the implementation of the discussed mitigation measures (Exh. EN-2, at 5-26; Companies Brief at 104).

ii. Wetlands and Watercourses

The Companies' environmental assessment of the Proposed Route identified approximately 81 acres of wetlands and 18 water crossings (eight perennial, ten intermittent) within the transmission corridor using field data and state mapping (Exh. EN-2, at 5-21). While no Certified Vernal Pools ("CVPs") exist directly in the ROW, five are located in the study area, with wetland complexes at various locations from Fall River to Acushnet (Exh. EN-2, at 5-22). The Project's wetlands impacts, which include 7.1 acres of temporary, 1.7 acres of secondary, and 0.02 acre of permanent impact wetlands (due to installation of structure foundations), are primarily along portions of the Proposed Route, with no additional impacts expected from substation improvements (Exhs. EN-2, at 5-22; EN-4, at 8, Table 1.3).

To minimize wetlands damage, the Companies stated that the Project utilizes existing ROWs and access roads, though the scale of construction necessitates some unavoidable alterations, including the conversion of forested wetlands to scrub-shrub habitats (Exh. EN-2, at 5-22). Construction-related impacts stem from vegetation removal, excavation, work pad installation, and access road construction (Exh. EN-2, at 5-22). To protect resources, the Companies are employing specialized design measures to reduce impacts on wetlands and watercourses to the maximum extent practicable (Exh. EN-2, at 5-22). Mitigation for unavoidable impacts involves *in situ* wetland restoration, such as removing construction mats and restoring original grades, along with potential wetland replication, property acquisition for land preservation, and participation in the USACE in-lieu fee program to achieve no net loss (Exh. EN-2, at 5-22). Furthermore, potential vernal pool impacts will be managed through BMPs, construction matting, and seasonal restrictions (Exh. EN-4, at 48-49). The Companies will coordinate with federal, state, and local conservation commissions, including those in Acushnet and Fall River, to finalize the mitigation package (Exh. EN-2, at 5-22).

b. Positions of the Parties

i. CNA

While the Companies stated that the Copicut Reservoir is designated as a secondary public water supply for the City of Fall River, CNA argues that the reservoir is an active reservoir supplying 19 percent of Fall River's drinking water, for an estimated 100,000 people in Fall River and surrounding towns of Assonet, Westport, and North Tiverton (CNA Brief at 2, citing Exh. EN-2, at 5-16). CNA alleges that the clear cutting of 500 linear feet of trees bordering the Copicut Reservoir would lead to a general increase in water pollution, erosion, and bioturbation that would degrade drinking water quality (CNA Reply Brief at 2). CNA also contends that opening of the lake front by clear-cutting would facilitate public access, which would contribute to both degradation in wetlands and water quality and public safety, including illegal dumping (CNA Reply Brief at 2). CNA argues that the Companies' consideration for wetland replication in the Quanapoag Road area has been inadequate (CNA Reply Brief at 2). CNA also objects to giving credit to the Companies for wetland remediation at the Bell Rock Substation and away from the local Copicut watershed where the impact occurs (CNA Brief at 4).

ii. Companies' Response

The Companies argue that they thoroughly analyzed and minimized potential impacts to water quality and wetland resources, and proposed mitigation where warranted (Company Reply Brief at 3-4). The Companies' proposed mitigation included proactive steps such as compliance with drinking water regulations,[42] implementation of SWPPP, implementation of a Soil Erosion and Sedimentation Plan, employment of environmental inspectors during construction, proposed plantings of low-growing shrubs along the reservoir's edge and maintaining the flow of the

[42] The Companies contend that CNA's claim that the Copicut Reservoir supplies 19 percent of Fall River's drinking water was not established by a witness under oath during the proceeding (Companies Reply Brief at 3, n.4, citing Tr. 1, at 127). Moreover, the Companies assert that the veracity of CNA's representation is irrelevant to the Companies' arguments in response to CNA (Companies Reply Brief at 3 n.4).

Copicut River (Companies Reply Brief at 4-5; Exh. CNA-I-4). The Companies also dismiss CNA's recommendation for an independent environmental feasibility study by a third-party partner because the request ignores the role of the Siting Board and other permitting agencies (Companies Reply Brief at 3).

c. Analysis and Finding

Regarding impacts on water resources, including public water supplies, the record shows that the Proposed Route ROW contains approximately 275.5 acres of ORWs, including wetlands that are designated tributaries to the Class A Water Supplies of the North Watuppa Pond and the Copicut Reservoir and open water areas along the northern boundary of Copicut Reservoir, as well as 16.8 acres of high-yield aquifers and 157.2 acres of medium-yield aquifers. While there would be no impacts on wetland resources during Project operation and maintenance, the Project would cause temporary impacts, including vegetation removal, excavation for pole structures, work pads and access road construction within the Copicut Reservoir and North Watuppa Pond watersheds, as well as temporary wetland impacts within 400 feet of the Copicut Reservoir.

The Companies proposed various mitigation measures to minimize impacts, including: (1) using temporary construction mats; (2) using sensitive vegetation removal techniques, including by hand; (3) complying with requirements of the SWPPP and relevant regulations such as NPDES Construction General Permits and restrictions applied by local conservation commissions; (4) implementing sediment and erosion control, as laid out in a Soil Erosion and Sedimentation Plan, which would be included as part of the SWPPP; (5) implementing spill prevention and response; (6) requiring contractors' adhere to BMPs regarding the storage and handling of OHM and emergency response plans, including by conducting pre-construction training; and (7) and proper maintenance of equipment. Moreover, the Companies would follow current procedure and BMPs used on the ROW, including no herbicide applications within ORWs. The record also shows that the Substation Work would not have water resources impacts.

The Siting Board acknowledges CNA's concerns about potential water quality impacts from the Project to the Copicut Reservoir but recognizes that record evidence in this proceeding

does not indicate that there will be long term water quality impacts from the Project. Further, the Siting Board finds that the mitigation measures proposed by the Companies are reasonable and adequate in mitigating water quality impacts stemming from the Project's construction. Finally, the Siting Board finds that the record adequately demonstrates that the Project would not cause permanent water quality impacts to the Copicut Reservoir.

On wetland impacts, the record shows that the Project would result in 7.1 acres of temporary, 1.7 acres of secondary, and 0.02 acres of permanent impact to wetlands (due to installation of structure foundations). The impacts include temporary crossing of one perennial stream and four intermittent streams along the Proposed Route. The Companies proposed mitigation measures to minimize these impacts, include (1) a careful planning and design of the New Line, including recent refinements to the alignments of underground segments, as well as new access roads; (2) implementing BMPs on soil stockpile management, dewatering, and management of disturbed wetlands; (3) implementing seasonal restrictions; (4) using construction matting (especially over stream channels); (5) flagging and monitoring of wetlands and vernal pools; and (6) incorporating *in situ* wetland restoration. The Companies would also consult with USACE, MassDEP, NHESP, municipal conversation commissions, and the Superintendent of the Watuppa Reservation to develop an appropriate mitigation package to ensure no net loss of wetland functions and values that might involve wetland restoration, wetland replication, targeted property acquisition for land preservation, and participation in the USACE Massachusetts in-lieu fee program. The Siting Board directs the Companies to submit to the Board the no-net-loss-of-wetland-functions mitigation package when it becomes available. The record shows that the Substation Work would not have wetland impacts. Considering these mitigation measures, the Siting Board finds that the Project's impacts on water resources and wetlands would be minimized.

3. Noise

a. Companies' Description

The Companies indicated that noise impacts from the proposed transmission line are expected to be temporary, primarily occurring during the construction phase (Exh. EN-2,

at 5-27). In general, the sound levels from construction activity will be dominated by the loudest piece of equipment operating at the time (Exh. EN-2, at 5-27). The Companies state that typical sound levels of construction noise experienced at any given residence would be intermittent and would occur throughout Project construction (Exh. EN-2, at 5-28). The Companies proposed construction work hours from 7:00 a.m. to 5:00 p.m., Monday through Friday, and from 9:00 a.m. to 5:00 p.m. on Saturdays (Exh. EFSN-NO-2). The Companies' indicated that their proposed work hours are consistent with the applicable municipal noise ordinances, and that the ordinances do not prescribe decibel level limits (Exh. EN-2, Table 5-8). While most work will happen during the day, certain tasks like concrete pours, conductor stringing, or state-mandated night work may require extended hours or work on Sundays and holidays (Exhs. EN-2, at 5-30; EFSB-NO-2).

The Companies estimated that at a distance of 50 feet, construction equipment used for Project construction would generate noise levels of between 80 dBA and 98 dBA (Exh. EN-2, at 5-28). However, the closest residence to the Proposed Route is approximately 100 feet away, and the Companies stated that the noise impacts will be minimized by distance, the Project's adherence to proposed work hours, and various mitigation measures (Exh. EN-2, at 5-28). Construction noise impacts at the Tremont, Acushnet, and Bell Rock Substations will vary based on the distance to the nearest receptors (Exh. EN-2, at 5-27). The Tremont Substation is roughly 420 feet from the nearest home, and the Acushnet Substation is 190 feet away; the Companies stated that both are expected to see only slight increases in ambient noise levels for such residents (Exh. EN-2, at 5-29). The Bell Rock Substation would be situated approximately 0.5 miles from the nearest residence, making significant noise impacts there unlikely according to the Companies (Exh. EN-2, at 5-29). According to the Companies, improvements to the Tremont and Acushnet Substations would take place primarily within the existing control building enclosures of the substations; therefore, the improvements are not anticipated to significantly affect existing ambient noise levels (Exh. EN-2, at 5-29).

To mitigate these impacts, the Companies have committed to several BMPs, including maintaining equipment with appropriate mufflers, limiting vehicle idling to five minutes per state regulations, and placing loud, continuous machinery, like generators, away from populated areas

(Exh. EN-2, at 5-30). For any work occurring during "atypical" hours, the Companies will obtain municipal approval and notify local authorities and residents in advance (Exhs. EFSB-NO-2; EFSB-NO-4). By combining these operational controls with the natural buffering of the surrounding landscape, the Companies stated that the overall noise impacts in the Project areas would be minimized (Exh. EN-2, at 5-30; Companies Brief at 109-110).

b. Positions of the Parties

i. CNA

CNA also raises concern about noise impacts to the neighborhood from the removal of tree buffer bordering the Copicut Reservoir, both temporary during construction and long-term from the Copicut Rifle Association to the north (Exh. CNA-I-1; CNA-PFT-3, at 2).

ii. Companies' Response

The Companies argue that there would still be an approximately 450-foot-wide tree buffer between the edge of the ROW and the closest residence on Copicut Road, which would continue to provide noise attenuation to nearby residences (Exh. CNA-N-3). Therefore, the Companies does not expect the Project to have a material noise impact on residents along Copicut Road (Exh. CNA-N-3).

c. Analysis and Finding

The record shows that the Project would have certain temporary noise impacts during construction but no significant permanent noise impacts after completion of Project construction. Construction noise would occur intermittently across the Proposed Route ROW during typical work hours and specific instances of off-hour work for which the Companies would notify local authorities and seek their approval. The closest residence along the Proposed Route is approximately 100 feet away from the proposed New Line.

The Companies proposed noise mitigation includes: (1) maintaining equipment in good working condition; (2) using appropriate mufflers on equipment; (3) locating noise sources that may operate continually during the day away from populated areas to the extent possible; (4) limiting vehicles to the extent feasible based on the construction tasks, type of equipment/vehicle and weather conditions; and (5) locating equipment that may operate

continually during the day, such as generators or air compressors, away from populated areas to the extent possible. Moreover, as noted in Section VI.D.1.a.i.(D), the Companies will develop an Outreach Plan that covers notification to and coordination with affected stakeholders and municipalities on construction hours.

Regarding CNA's concern about noise impacts from the removal of tree buffer bordering Copicut River, the Siting Board finds that the remaining tree buffer between the edge of the Proposed Route ROW and residences on Copicut Road would remain to provide noise attenuation to nearby residences. With the Companies' proposed mitigation measures and the Siting Board's condition to address noise impacts on residences close to the Proposed Route ROW, the Siting Board finds that the Project's noise impacts would be minimized.

To further mitigation of construction noise, the Siting Board directs the Companies to limit construction to the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday and to the hours of 9:00 a.m. to 5:00 p.m. on Saturdays. Work requiring longer continuous duration than normal construction hours allow, such as concrete pours and transmission line stringing, is exempted from this requirement. Should the Companies anticipate the need to extend construction work beyond the above-noted hours and days, with the exception of emergency circumstance on a given day necessitating extended hours, the Siting Board directs the Companies to seek written permission from the relevant municipal authority before the commencement of such work, and to provide the Siting Board with a copy of such permission. If Companies and municipal officials are not able to agree on whether such extended construction hours should occur, the Companies may request prior authorization from the Siting Board and shall provide the relevant municipality with a copy of any such request and authorization, if granted.

Based on the above, the Siting Board finds that noise impacts resulting from the Project would be limited to the construction phase, and adequately mitigated, given the Project's location along an existing transmission line ROW in predominantly undeveloped or low-density residential areas, the intermittent nature of transmission line construction activities, and with compliance the Siting Board's work hour condition.

4. Visual

a. Companies' Description

The Companies stated that most of their Proposed Route traverses undeveloped or densely forested areas where the new structures would be visible only from road crossings and occasional commercial or residential uses directly adjacent to the ROW (Exh. EN-2, at 5-26). However, the Companies identified five representative observation points where there would be a potential for views of the new structures (Exh. EN-2, at 5-26). The Companies presented before-and-after visual renderings for these locations (Exhs. EN-2, Fig. 5.8 (summer/leaf-on simulation); EFSB-V-5(1) (winter/leaf-off simulation)). The Companies stated the existing 115 kV transmission lines carried by H-frame structures are presently visible from all five observation points and that the primary visual difference introduced by the Project would be existing H-frame structures replaced by monopole structures and additional H-frames along the ROW (Exh. EN-2, at 5-26). The Companies stated that the new monopoles and H-frame structures would be similar to existing structures in color and texture, while the new H-frame structures would also be similar in height to the existing structures (Exh. EN-2, at 5-26).[43]

The Companies stated that no permanent lighting would be installed as part of the Project, but the Companies might use temporary lighting in special circumstances during construction; however, the Companies did not anticipate there would be any after-dark lighting impacts to abutters given the ample distance to the closest residence, limited number of residential abutters, and forested areas surrounding the Proposed Route ROW (Tr. 1, at 120-122). The Companies anticipate no adverse visual impacts from substation upgrades, which would take place within existing substations and would not introduce any equipment taller than existing structures (Exh. EN-2, at 5-26).

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[43] A comparison of the ROW cross-section plan and profile drawings provided by the Companies shows that the new transmission structures would increase the tallest structure height between zero feet (no change) to 33 feet across different locations on the ROW (Exh. EN-2, Fig. 5-2). According to the drawings, the new monopoles would be as tall as 112 feet while the new or replaced H-frame structures would be as tall as 88 feet (Exh. EN-2, Fig. 5-2, Sheet 3, Sheet 5). In comparison, the tallest existing H-frame structure is 97 feet tall (Exh. EN-2, Fig. 5-2, Sheet 5).

The Companies maintained that they have minimized the potential for visual impact along the Proposed Route through use of an existing transmission line ROW located primarily in undeveloped and forested areas with relatively few residential or commercial abutters (Exh. EN-2, at 5-26; Companies Brief at 106-107). The Companies stated that they would work on a case-by-case basis with any abutting landowners that experience a material change in view and express concern about the change to determine whether measures such as landscaping, fencing, or a combination of the two could further mitigate impacts (Exh. EN-2, at 5-26).

b. Positions of the Parties

i. CNA

CNA also requests that the Companies address CNA's concerns about decreasing property values for those who will have a much more significant view of the power lines or a view where they had none before (CNA Reply Brief at 3; Exh. CAN-P-2).

ii. Companies' Response

The Companies argue that CNA provided no evidentiary support for the claim that the Project would negatively affect property values (Companies Reply Brief at 9, citing Exhs. CNA-P-2, CNA-P-2(1)). To the contrary, the Companies argue that in previous cases, the Siting Board has determined that where a project does not involve residential properties with: (1) transmission line easements on the property; or (2) very close proximity to the ROW (e.g., ~35 feet); or (3) unobstructed views of transmission structures, negative impacts to property values are unlikely (Companies Reply Brief at 9, citing Exh. CNA-P-2). See Sudbury-Hudson at 221. The Companies maintain that none of these conditions are present to the CNA properties in Fall River, which are at least 450 feet from the Proposed Route ROW and forested buffer obstructs the views of transmission structures (Companies Reply Brief at 10, citing Exhs. CNA-P-2; CNA-P-2(1)). The Companies do not expect the Project to result in a significant increase in visual contrast due to the presence of the existing transmission line (Companies Reply Brief at 10, citing Exh. CAN-P-2). Moreover, citing other cases, the Companies allege that economic impacts such as property values are beyond the scope of the Siting Board's enabling legislation (Companies Reply Brief at 10). See IDC Bellingham, LLC, EFSB 97-5, at 13 (Procedural Order,

May 1, 1998). Berkshire Power Development, Inc., EFSB 95-1, at 6 (Procedural Order, October 11, 1995).

c. Analysis and Finding

The record shows that the new transmission line structures would be similar to existing structures in color, texture, and height. The record demonstrates that five specific locations would have a pronounced view of the New Line, including four residential areas and the Copicut Reservoir. The Companies provided visual renderings to show the before-and-after views at these locations. The record demonstrates that the renderings are similar to the existing views of current transmission line and structures. Further, the Companies will work on a case-by-case basis with any abutting landowners that experience a material change in view resulting from the Project and express concern to the Companies about visual mitigation, including landscaping, fencing, or a combination of the two. Concerning lighting, the Companies do not propose permanent lighting as part of this Project, and any temporary lighting used during the Project construction would be limited. The proposed Substation Work would take place within the existing substations and would not introduce any equipment taller than existing structures and thus would have no significant visual impacts.

With regard to alleged property values decreases,[44] CNA claims, without any factual support, that the Companies have not adequately addressed this concern. In fact, adverse effects on property values are unlikely. In previous cases, the Siting Board has determined that where a project does not involve residential properties with: (1) transmission line easements on the property; (2) residences in very close proximity to the ROW (e.g., ~35 feet); and (3) unobstructed views of transmission structures, negative impacts to property values are unlikely.

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[44] On property value loss, the Siting Board acknowledges its precedent on property value impacts in the cases cited by the Companies but provides a clarification. The Siting Board, in consideration of the submission of evidence concerning potential property value impacts, found it appropriate for the Siting Board to give weight to analysis or allegations regarding economic considerations; however, neither the Department nor the Siting Board may make any monetary damage award for adverse property value impacts, as issues relating to compensation are exclusively the province of the courts. See Sudbury-Hudson (Scoping Order on Issue of Property Values at 4).

See Sudbury-Hudson at 221. With respect to the CNA properties in Fall River, none of these characteristics are present: the ROW is not located on any residential properties, there are no residential properties within 450 feet of the ROW, and there are no residences with an unobstructed view of the Project. The existing residences located along Copicut Road, in the vicinity of the upper Copicut Reservoir, are located between approximately 450 to 1,000 feet from the Project. The forested buffer, which abuts the residences along Copicut Road, will remain in place and will not be affected by the Project, and therefore the proposed transmission line is not expected to result in a significant increase in visual contrast due to the presence of the existing transmission line, and negative impacts to CNA property values are unlikely.

Accordingly, the Siting Board finds the Project's visual impacts would be minimized.

5. Air

a. Companies' Description

The Companies did not anticipate long-term impacts on air quality from dust or vehicle emissions associated with the construction of the Project, but would take measures to reduce air emissions, including: (1) retrofitting any non-road construction equipment with 50 horsepower or above, that will be used for 30 or more days over the course of the construction and are not USEPA Tier 4-compliant, with a USEPA-verified emission control device, (2) using ultra-low sulfur diesel fuel; (3) minimizing vehicle idling during construction activities, in compliance with the Massachusetts Anti-idling Law, and (4) wetting and stabilizing exposed soils on access roads (Exh. EFSB-A-2). The Companies stated that the New Line would terminate at and connect to a gas-insulated circuit breaker at Bell Rock Substation, which uses approximately 95 pounds of sulfur hexafluoride ("SF_6") (Exh. EFSB-A-1).[45]

[45] The Companies noted that the new SF_6-containing Gas Insulated Switches ("GIS") would be installed and maintained by trained technical staff and would be checked for integrity during regular inspections by National Grid personnel (Exh. EN-2, App. 1-1, at 89). In addition, National Grid's procurement specifications require SF_6 gas leak rates of less than 0.5 percent per year, which is consistent with an SF_6 Emissions Reduction Partnership Memorandum of Understanding that National Grid entered with the USEPA in December 2003 (Exh. EN-2, App. 1-1, at 89). 310 CMR 7.72(4) promulgated by MassDEP limits a maximum annual leak rate of 1.0 percent.

b. Positions of the Parties

CNA did address air impacts on brief.

c. Analysis and Finding

The record shows that the Project would have temporary air impacts from construction, specifically, emissions from construction vehicles and equipment, and construction dust. For the temporary air impacts, the Companies proposed mitigation measures including equipment retrofit for cleaner emissions, use of ultra-low sulfur diesel fuel, minimization of vehicle idling, and construction dust control including using water. Moreover, National Grid will procure equipment with a SF_6 gas leak rates of less than 0.5 percent per year, in conformance with an SF_6 Emissions Reduction Partnership Memorandum of Understanding between National Grid and the USEPA. Accordingly, the Siting Board finds the Project's air impacts would be minimized.

6. Traffic

a. Companies' Description

The Companies stated that the construction of the Project would not result in a significant increase in traffic, or material changes to existing traffic patterns (Companies Brief at 112, citing Exh. EN-2, at 5-31). This includes the 10 to 15 truckloads of excavated soil that the Companies anticipated on the busiest workday (but much less on a typical workday) (Exh. EFSB-CM-7). The Companies maintained that the main traffic impacts would occur at ROW construction access points and when stringing transmission conductors over road crossings (Exh. EN-2, at 5-30). The Companies do not anticipate that any roadways would need to be fully closed during construction (Exhs. EN-2, at 5-31; EFSB-T-5; EFSB-CM-3). While the Companies did not anticipate traffic impacts to local businesses abutting the Proposed Route ROW, the Companies indicated that they would work with any businesses on an individual basis if they had any concerns (Exh. EFSB-T-11).

All construction equipment and construction personnel would enter and exit the Proposed Route ROW from public roads at the ROW access points (Exhs. EN-2, at 5-30 to 5-31; EFSB-CM-4). National Grid's construction workers would use ROW access points located at Bell

Rock Road, Yellow Hill Road, Copicut Road, and Quanapoag Road in the City of Fall River (Exh. EFSB-T-1).[46] Eversource's construction workers would use ROW access points located at Apple Blossom Lane and Main Street in Acushnet, Duchaine Boulevard in New Bedford, and Flag Swamp Road in Dartmouth (Exh. EFSB-T-1). While traffic at and leading to ROW access points would temporarily increase, the Companies stated that construction traffic would be intermittent as the various construction tasks would occur at different times and locations, and the Companies would use off-site laydown areas to minimize material-delivery traffic (Exhs. EN-2, at 5-31; EFSB-CM-4).[47]

Prior to beginning construction, the Companies would work closely with the municipalities and MassDOT to develop construction Traffic Management Plans ("TMPs") to create construction-phase traffic controls and to minimize the impacts of construction on the traveling public (Exh. EN-2, at 5-31).[48] The Companies would obtain MassDOT permits for the work at state highway crossings and coordinate with the municipalities on requirements for work hours, signage, and police details for the work along local roadways (Exhs. EN-2, at 5-31; EFSB-T-4; EFSB-T-5). National Grid stated its plans to improve unpaved roadways near the Proposed Route ROW within Fall River, including filling potholes with stone, to allow for safe

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46 National Grid stated that its workers would not be using their personal vehicles to get to the Project site; rather, its workers would be marshaled at an off-site staging area on Westport Road and at other National Grid facilities, and then take their work vehicles onto the Project site so there would be no personal vehicles parked along Quanapoag and Copicut Road (Tr. 1, at 144-145). The Companies explained that given their interest in ensuring safety of its workers and the public, with respect to Copicut Road and Quanapoag Road, National Grid would make improvements to those roadways, if needed, to promote safe and efficient access (Exhs. CNA-I-1; CNA-I-3; CNA-I-5(2); CNA-I-6).

47 In using its existing facilities in the Project area, National Grid's internal construction workforce would be leasing a staging and laydown yard located on State Road in Westport for the storage of Project materials and equipment (Exh. EFSB-T-1). The Companies' contractors would be responsible for securing their own staging and parking locations needed to support their scope of work (Exh. EFSB-T-1).

48 The Companies have developed draft TMPs for State Route 140 and State Route 18, which would be finalized and submitted to MassDOT for review and approval prior to the start of Project construction (Exhs. EN-5, at 13; EFSB-T-8(1)).

access of construction equipment, deliveries, and crews, and to coordinate with the City of Fall River and the City's Water Department on the timing of these improvements (Exh. EFSB-CM-15).

The Companies are aware of several construction projects by other parties that might overlap with the Project construction, including a new siding planned by MassDOT Rails that would cross between Structures 47 and 48, and the possible re-paving of public roadways that service residential dwellings along the boundary of the Watuppa Reservation by the City of Fall River (Exh. EFSB-CM-5). The Companies have been in communication with the corresponding agencies to coordinate the Project and would continue to look out for any other planned construction in the vicinity of the Proposed Route ROW (Exh. EFSB-CM-5). With the development and implementation of well-designed TMPs, the Companies anticipated the Project's temporary traffic disruption would be minimized (Companies Brief at 112, citing Exh. EN-2, at 5-31).

b. Positions of the Parties

i. CNA

One of CNA's chief concerns is the potential damage and collapse of the culvert on Quanapoag Road over the Copicut River (the "Culvert") during construction of the Project (CNA Reply Brief at 2). The Culvert is at the northern end of the Copicut Reservoir and is an inflow point for the tributary; the Culvert is the origin of the East branch of the Westport River, which potentially impacts a much larger ecosystem (CNA Brief at 2). CNA argues the importance of the Culvert as a confluence of wetlands, active drinking water reservoir, public roadway access, construction access in the proposed development by the Companies, and far-reaching ecosystem beyond (CNA Brief at 2). CNA's witness Lara K. Davis observed that photographs she took in the field showed conditions of extensive wear, excessive loading from utility vehicles, and dramatic erosion of the Culvert, and recommended the Culvert be assessed by a civil engineer for

H-20 load rating[49] to support heavy construction vehicles (Exh. CNA-I-1, CNA-PFT-1 & App. 2). CNA also submitted photo evidence showing water levels 14 to 15 inches above Quanapoag Road in March 2010, contending that a flood at the time damaged Quanapoag Road and the Culvert and caused erosion (Exh. CNA-I-1; CNA-PFT-2, at 3, 6; PCH Tr. at 39-41).

ii. Companies' Response

The Companies requested that the opinion of Ms. Davis, CNA's witness, should be accorded little weight by the Siting Board as she lacked the relevant qualification concerning culvert engineering (Companies Reply Brief at 8). Concerning the Culvert, the Companies disagree with CNA's assessment, but indicate that it shares CNA's interest and concern in ensuring the safety of the Culvert (Companies Reply Brief at 8-9, citing Tr. 2, at 210-212).[50] As the Quanapoag Road is within National Grid's ROW, National Grid indicated that it would: (1) conduct pre- and post-construction visual and video inspections of the Culvert to document conditions of the Culvert crossing; (2) install temporary steel plates over the Culvert crossing to disperse vehicle and equipment loads; (3) re-install guardrails or barriers at the Culvert crossing to mark the edges of the river crossing; and (4) make improvements to Copicut Road and Quanapoag Road if needed, to promote safe and efficient access for construction equipment, deliveries, and crews (Companies Brief at 82-83, citing Exhs. CNA-I-2; CNA-I-4; Tr. 1, at

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49 An H-20 load rating is the standard used in construction and infrastructure design, based on the American Association of State Highway and Traffic Officials standard, primarily for heavy loads produced by vehicles; H-20 corresponds to a two-axle truck with an axel load of 32,000 lbs. See LRFD Bridge Design Specifications, 10th Edition, 2024.

50 During the evidentiary hearings, Jamie Durand from POWER Engineers, National Grid's engineering consultant for the Project, stated that his team had put in a request to the City of Fall River Engineering Department to get information on the Culvert, including any available as-built plans, but were still waiting for the information; however, based on their visual inspection of the Culvert, he deduced the Culvert was of a modern design built with reinforced concrete and, as part of a public roadway, designed for the H-20 load rating (Tr. 1, at 157-159).

137).[51] National Grid added that it was working and will continue to work with the City of Fall River to coordinate the scope and timing of any needed improvements (Companies Reply Brief at 9, citing Exhs. CNA-I-1; CNA-I-5(2)).

iii. CNA Response

CNA disputes the Companies' assessment of the Culvert, contending that: (1) there was insufficient evidence to show that the Culvert was built to H-20 standards; (2) the Culvert did not satisfy state standards for wetlands; and (3) installation of a steel plate as proposed by National Grid is insufficient to address the holes of up to five feet deep in the abutments causing the Culvert to be unstable (CNA Reply Brief at 2-3). CNA questions why the Companies' communication with the Fall River City Engineer either stopped short of acquiring information on the Culvert or alternately stopped short of sharing that information with the Siting Board (CNA Brief at 4). CNA also alleges that the instability of the Culvert has the potential for water pollution and safety accidents such as vehicles falling into the reservoir (CNA Reply Brief at 2).

c. Analysis and Finding

The record shows that Project construction would cause temporary and limited traffic impacts to certain local roads and highways at various ROW access points during the Project construction, and at transmission line crossings over roadways and railroads during transmission line stringing operation. At ROW access points, road traffic would increase intermittently due to construction traffic, which the Companies would minimize by using off-site laydown areas. For stringing operations at the road and railroad crossings, there would be lane closures or temporary traffic stops, but not full closure of any roadways. Traffic impacts from the stringing operations would be limited in duration and the Companies would coordinate with MassDOT and

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[51] National Grid identified no structural deterioration or instability from earlier visual inspections of the Culvert (Exhs. CNA-I-2; CNA-I-4). Moreover, the Companies had reviewed and discussed the Culvert on-site at an October 17, 2022, field meeting with the Reservation Superintendent for the Fall River Water Department (Exh. CNA-I-3). Regardless, National Grid stated that it was committed to making the improvements noted (Companies Brief at 82-83).

municipalities to develop TMPs and schedule the stringing operations as to minimize traffic disruption. The Companies have been coordinating and will continue to coordinate with relevant municipalities and agencies concerning other construction projects planned near the Project. The record shows that there will be no traffic impacts during operations.

While the Companies developed draft TMPs for the proposed transmission line crossings over roadways and railroad, and would finalize these TMPs prior to construction, the Siting Board sees merit in requiring similar TMPs for all ROW access points on public roadways associated with this Project. Therefore, the Siting Board directs the Companies to: (1) develop, in consultation with affected municipalities and MassDOT, TMPs for all ROW access points, including but not limited to that on Bell Rock Road, Yellow Hill Road, Copicut Road, and Quanapoag Road in the City of Fall River; and Apple Blossom Lane and Main Street in Acushnet, Duchaine Boulevard in New Bedford, and Flag Swamp Road in Dartmouth; and (2) submit the finalized TMPs at least 60 days prior to the start of the Project construction to the affected municipalities.

Concerning the Culvert over the Copicut River, the Companies and CNA submitted conflicting evidence and arguments on the condition of the Culvert. CNA's concern about the Culvert relates to its likelihood of failure, potential damage of the Culvert during the Project construction, and disruption to access, including emergency vehicle access. Considering that the Companies' assessments of the Culvert's condition on record were based only on visual inspections, the Siting Board directs the Companies to, at least 60 days prior to the start of the Project construction, either: (1) provide a confirmation letter from the City of Fall River Engineering Department detailing the age, design load rating, and current condition of the Culvert, alongside any available as-built plans, or (2) provide an independent structural assessment from a licensed engineer of the Culvert to determine the structural integrity and load rating to confirm that it meets the H-20 standard. In addition, the Siting Board encourages the Companies to support the City of Fall River in exploring funding opportunities for improving the Culvert, e.g., the state's Culvert Replacement Municipal Assistance Grant Program.

With the Siting Board's conditions, the Siting Board finds that traffic impacts of the Project construction would be minimized.

7. Hazardous Waste and Safety

a. Companies' Description

The Companies stated that the Project will be designed, built, and maintained according to federal, state, and local regulations, including the National Electrical Safety Code, OSHA, and the Massachusetts Code for Electric Transmission Lines (Exh. EN-2, at 5-11). Safety protocols include contractor training, traffic control plans, and restricting public access (Exh. EN-2, at 5-11 to 5-12). Open excavations will be monitored during the day and covered when inactive (Exh. EFSB-S-6).

With regard to construction safety and public access, as noted in Section VI.D.1.a.i.(D), the Companies will implement an Outreach Plan to coordinate with stakeholders and municipalities (Exh. EN-2, at 1-8). This includes installing safety signage and planning temporary detours around construction zones to minimize disruption to public spaces, particularly existing trail systems (Exh. EN-2, at 5-17). To prevent trespassing, the Companies will install gates or barriers at ROW access points from public roads, subject to approval from easement property owners (Exh. EFSB-S-6).

To protect other utility infrastructure during construction, the Companies will mark trench widths and coordinate with Dig Safe to locate existing utilities before excavating (Exh. EN-2, at 5-9). Protective measures for utilities includes: temporary guard structures and rubber coverings; pre-excavation test pits and exclusion fencing; and Non-Reclosure Assurance and grade crossings for pipelines (Exh. EFSB-S-7).

Regarding hazardous materials and waste management, while no known contamination exists along the Proposed Route (Exh. EFSB-CM-9), Eversource has hired a Licensed Site Professional ("LSP") to train contractors on managing soil and groundwater if contaminated materials are encountered (Exh. EFSB-CM-8). National Grid does not anticipate hiring an LSP to manage contaminated soils or regulated materials at this time because it does not have underground line sections and does not otherwise anticipate the need to conduct response actions or manage contaminated soils; however, National Grid has Master Service Agreements with several LSPs who are available to respond on an urgent or short notice basis to facilitate

regulatory notifications and reporting required under the Massachusetts Contingency Plan and assist with proper management and disposal of potentially impacted soil and groundwater (Exh. EFSB-CM-8).

To protect water quality from oil and hazardous materials ("OHM") used in equipment (Exh. EFSB-S-2), Companies' contractors must follow BMPs, including:

1. Proper equipment maintenance.
2. Adherence to the SWPPP.
3. Refueling at least 100 feet from wetlands where practicable.
4. Personnel training and on-site spill containment.
5. Following emergency response and spill prevention plans.

Source: Exhs. EN-2, at 5-25; EFSB-S-2; EFSB-S-3; EFSB-W-5; EFSB-W-7.

Substation Work will not involve hazardous substances (Exh. EFSB-S-5). Post-construction, the Companies will continue using BMPs, such as secondary containment for pumps and generators (Exh. EFSB-S-3). General housekeeping will be used to manage windblown trash (Exh. EFSB-S-1). Approximately 1,200 cubic yards of excavated soil will be hauled off-site by a vendor as needed (Exh. EFSB-CM-7).

b. Positions of the Parties

i. CNA

CNA also expresses concern about general neighborhood and public safety due to an insufficiently policed and monitored reservoir (CNA Reply Brief at 2; Exh. CNA-1, CNA-PFT-2, at 2, 7; CNA-PFT-3, at 2). CNA attributed the following issues to inadequate policing resources and open access along the Proposed Route ROW:

- Illegal motorized vehicle uses (e.g., dirt bikes, quads) on the ROW and in the woods, causing noise and erosion at the edge of the reservoir;
- Other sources of noise and nuisance such as campfires, fireworks or munition discharge; and
- Illegal dumping and littering adjacent to the Companies' easement.

Source: Exh. CNA-I-1; CNA-PFT-2, at 2, 7; CNA-PFT-1.

CNA alleges that the responsibility of monitoring safety concerns and illegal activities around the Proposed Route ROW near Copicut Road fell onto the shoulders of community members (CNA Brief at 5, citing Tr. 2, at 211).

ii. Companies' Response

The Companies contend that CNA provided no basis to establish that the Project would have any effect on illegal activity in the area (Companies Reply Brief at 7). Nonetheless, the Companies note that National Grid has met and will continue to meet with representatives of the FRPD to discuss concerns relating to illegal activities within the Project ROW (Companies Reply Brief at 7). The Companies maintain that their provision of mobile game cameras and license plate-reading security cameras will enable the Fall River Police to remotely monitor illegal activities near the ROW (Companies Reply Brief at 7, citing Exhs. EFSB-G-6; CNA-E-11; CNA-N-4; CNA-S-4; CNA-S-5(1)). The Companies argue that, with these mitigation measures, there is no nexus between Project impact mitigation and the staffing levels of the FRPD (Companies Reply Brief at 7). The Companies also argue that various CNA requests, such as for additional mitigation to provide additional personnel or equipment resources to the FRPD, were unfounded and unwarranted (Companies Reply Brief at 7-8).

c. Analysis and Finding

Regarding hazardous waste, the record shows that the Companies did not identify any known contamination sites along the Proposed Route ROW, and, therefore, the likelihood of encountering subsurface contamination during construction is low. The Project construction would only involve OHM such as fuel oil and hydraulic fluid in the Project's construction equipment. As described above, with regard to wetland and water impact mitigation, the Companies' proposed BMPs and mitigation measures would prevent, mitigate, and respond to accidental spills of OHM, including the implementation of the SWPPP and stocked spill kits on-site.

With regard to safety, the Companies proposed several measures, including: (1) implementing an Outreach Plan for affected stakeholders; (2) erecting barriers to inhibit trespassing on the ROW; (3) contacting Dig Safe and shoring excavated trench for the construction of the underground cable segments; (4) adhering to all applicable federal, state, and local regulations, and industry standards and guidelines established for protection of the public; and (5) safeguarding against impacts to existing utilities infrastructure.

On neighborhood and public safety concerns, CNA provided compelling evidence of illegal refuse disposal at present on the transmission line ROW and trespassing. However, CNA did not demonstrate that the Project would worsen the existing refuse or trespassing problems.

The proposed New Line is located entirely within an existing transmission line ROW (the Proposed Route ROW), which is along the Companies' easement. The Companies have both the right and obligation to maintain these easements and to keep the ROW clear of trees and underbrush, up to its full ROW width of 150 feet. In addition, as part of the Project, the Companies indicated they would, if allowed by property owners, install gates and/or barriers at ROW access points. For additional security, the Companies consulted with the FRPD and, as a result, would provide mobile game cameras, license plate-reading security cameras, and continue to meet with FRPD to discuss concerns relating to illegal dumping and trespassing activities within the Project ROW. The Siting Board finds that the Companies have proposed substantial mitigation measures to address CNA's security concerns. Consequently, the Siting Board finds CNA's request from the Companies for additional personal or equipment resources to the FRPD unnecessary.

The Siting Board finds that Project impacts from hazardous waste and safety would be minimized with the described mitigation measures and conditions.

8. EMF

a. Companies' Description

The Companies' consultant, Exponent, evaluated EMF associated with the existing and proposed transmission and distribution lines along the Proposed Route under both average and peak loading conditions (Exh. EN-2, at 5-31). Portions of the Project ROW run parallel to existing 115-kV transmission lines (Lines 111, 112, and D21) and 13.2-kV distribution lines (Lines 106 and 107) (Exh. EN-2, at 5-31). Exponent modeled EMF levels at six cross-sections along the Proposed Route - five within Eversource's ROW and one within National Grid's - under existing and proposed configurations to assess Project-related changes (Exh. EN-2, at 5-31). The Companies stated that the modeling shows that changes in EMF levels at the ROW edges would be small and that the Project would generally reduce magnetic-field levels

along the ROW (Exh. EN-2, at 5-31 to 5-32). According to the Companies, the Project would also not cause electric or magnetic fields to exceed internationally recognized health-based exposure limits (Exh. EN-2, at 5-33) endorsed by the World Health Organization (Exh. CNA-S-2).

The Companies state that magnetic-field levels at the ROW edge are generally calculated to decrease as a result of the Project (Exhs. EN-2, at 5-32, Table 5-13; CNA-S-1). This reduction occurs because fields of equal strength can cancel each other when oriented oppositely (Exh. EFSB-MF-4). By selecting conductor phasing for the New Line that counteracts the fields from existing lines, the Project reduces overall magnetic-field levels at the ROW edges (Exhs. EN-2, at 5-32; EN-2, App. 5-3, at 8, 11; EFSB-MF-4; Companies Brief at 115-116). Table 19 shows the modeled magnetic-field levels for overhead sections at average loading.

Table 19: Magnetic-field levels (mG) for overhead sections at average loading.

Segment Number	Config-uration	100 feet beyond -ROW edge	-ROW edge	Max on ROW	+ROW edge	100 feet beyond +ROW edge
XS-1	Existing	1.6	13	46	7.0	1.4
	Proposed	0.9	9.0	65	1.1	0.2
XS-2	Existing	1.8	14	46	15	2.1
	Proposed	1.9	15	46	7.9	1.6
XS-3	Existing	0.9	14	68	21	2.4
	Proposed	1.7	13	37	13	1.9
XS-4	Existing	1.0	3.6	71	20	2.3
	Proposed	1.8	10	48	12	1.7
XS-5	Existing	2.0	7.1	103	35	4.1
	Proposed	1.0	15	89	24	1.9
XS-6	Existing	2.0	7.6	135	36	4.0
	Proposed	0.6	12	110	24	2.1

Source: Exh. EN-2, App. 5-3, App. A, at A-2, Table A-1.

At average loading, the Companies modeling indicated that:

- Magnetic-field levels decrease at the northern ROW edge in all six cross-sections.

- At the southern ROW edge, levels decrease or change by less than 1 milligauss ("mG") in three cross-sections.
- In the remaining three cross-sections, levels increase slightly.

Source: Exh. EN-2, at 5-33.

The largest increase occurs at the south edge of XS-5, where the New Line (Line 114) is closest to the ROW boundary. Here, magnetic-field levels rise from approximately 7.1 mG to 15 mG (Exh. EN-2, at 5-33). The highest existing ROW-edge magnetic-field level - 36 mG at the northern edge of XS-6 - is calculated to decrease to 24 mG with the Project (Exh. EN-2, at 5-33). The closest residence in located in the Copicut neighborhood is approximately 565 feet south of Line 114's centerline and would experience magnetic-field levels of 0.3 mG or less both before and after the Project (Exhs. CNA-S-1; CNA-S-2; Exh. CNA-S-1).

The Project includes two short underground segments (Exh. EN-2, at 5-33). These configurations - UG-1 and UG - are located more than 60 feet from the nearest ROW edge and hundreds of feet from the nearest structure or residence (Exh. EN-2, at 5-33). The Companies estimate that Location UG-1 (the majority of underground construction) would have a magnetic field of 7.6 mG directly above the duct bank, decreasing to 1 mG or less at 50 feet (Exh. EN-2, at 5-33). Location UG-2 (near the riser pole, at shallower depth) is estimated to have a magnetic field level of 173 mG directly above the duct bank, decreasing to 33 mG or less at 50 feet and 9.6 mG or less at 100 feet (Exh. EN-2, at 5-33). The nearest residence to UG-2 is approximately 180 feet away, where magnetic-field levels would be negligible (Exh. EN-2, at 5-33).

The Companies modeled the highest post-construction ROW-edge magnetic-field levels of 24 mG would be less than existing levels of 36 mG (Exh. EN-2, at 5-33). According to the Companies, all calculated EMF levels are far below international health-based exposure limits established by the International Commission on Non-Ionizing Radiation Protection and the International Committee for Electromagnetic Safety (reference levels of 2,000 mG and 9,040 mG, respectively) (Companies Brief at 115, citing Exh. EN-2, at 5-33).

To mitigate magnetic field impacts, consistent with Siting Board precedent, the Companies incorporated several design features, which include:

- Locating the New Line 114 near the center of the ROW where possible (Exhs. EN-2, at 5-33; EFSB-MF-1).
- Selecting conductor phasing to minimize magnetic-field levels at the ROW edge (Exhs. EN-2, at 5-33).
- Designing conductor heights above National Electrical Safety Code minimums, reducing ground-level EMF (Exhs. EN-2, at 5-33; EFSB-MF-1, at 1).
- Installing two short underground segments (approximately 620 feet total) to avoid multiple overhead crossings at the Eversource Industrial Park Tap and the Eversource High Hill Switching Station (Exhs. EFSB-MF-1; EFSB-CM-6(S1); EFSB-CM-6(S1)(1)).

Given these design measures, and the resulting EMF levels, the Companies contend that magnetic fields associated with the Project have been minimized (Companies Brief at 113).

b. Positions of the Parties

CNA did not address EMF impacts on brief.

c. Analysis and Finding

For the overhead transmission line segments of the Project, the record shows that the Project would have, in general, minimal changes to electric and magnetic field levels along the edge of the Proposed Route ROW. The highest increase in magnetic field levels on the ROW edge would be from 7.1 mG to 15 mG. For the underground cable segments, the magnetic field levels above the duct bank would be higher but decrease rapidly with distance away from the duct bank, so that the Project would have negligible magnetic impacts at the nearest residence 180 feet away. The Siting Board recognizes that all modeled electrical and magnetic field levels are far below health-based international standards guidelines developed by the International Commission on Non-Ionizing Radiation Protection ("ICNIRP") and the International Commission on Electromagnetic Safety ("ICES"), as well as comparable to levels approved previously by the Siting Board for transmission lines. Moreover, the Companies' use of magnetic-field-cancelling placement of the New Line would reduce the magnetic field levels in certain parts of the Proposed Route ROW, which is consistent with the Siting Board's preference for low-cost measures that would minimize magnetic fields along transmission line ROW. See

Mid Cape Reliability Project at 82. Accordingly, the Siting Board finds that EMF impacts of the Project would be minimized.

9. CNA Requests to the Companies

a. CNA Requests

CNA acknowledges that the Companies will provide erosion management, install security cameras, place steel plates over the Culvert, install guardrails along the north side of the Culvert after the construction, address the stability of the Culvert as needed, and address road quality issues as they arise (CNA Reply Brief at 4-5). However, CNA also argues that the Companies commitments were vague regarding the stability of the Copicut River Culvert and road quality (CNA Reply Brief at 4-5). CNA alleges that if the Companies are not mandated by the state or other governing boards to mitigate the damage the Project could cause to drinking water quality, infrastructure, public safety, wetlands and rare species habitat, the Companies will not mitigate these impacts (CNA Reply Brief at 5). CNA also questions why there had not been an independent environmental study that addressed every "critical" environmental impact of the Project by an unbiased, third-party partner (CNA Brief at 5).

In its reply brief, CNA presented a list of requests for the Companies, reproduced below in Table 20, with additional Siting Board analysis and reference to conditions of the Siting Board where appropriate included (CNA Reply Brief at 3-4).[52]

b. Analysis and Findings

As described above, because of the timing of CNA's requests, the Companies did not provide responses. Nevertheless, Table 20 provides the Siting Board's consideration of the list of requests:

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[52] CNA included its requests to the Companies in its reply brief. CNA and the Companies filed simultaneous Reply Briefs, which did not provide an opportunity for the Companies to respond to CNA's requests, and the Companies did not otherwise respond.

Table 20: Siting Board's Responses to CNA Requests to the Companies.

No.	CNA Request	Siting Board's Analysis	Siting Board's Condition
Culvert/Roadway Conditions			
1	Conduct an independent, unbiased assessment of the Culvert for H-20 Load Rading, structural integrity, and assurance of adequate load capacity for construction traffic by a licensed civil engineer.	As discussed in Section VI.D.6.c, the Siting Board directs the Companies to either provide a confirmation letter from the City of Fall River assuring the age, load rating, and current conditions of the Culvert, or an independent structural assessment of the Culvert for structural integrity and load rating meeting the H-20 standard.	See Condition M.
2	Submit an as-built plan(s) for the Culvert.	The Siting Board's condition above would satisfy the intent behind this request.	See Condition M.
3	Provide an assurance that the Culvert meets the criteria of state standards for wetlands.	Given that the Culvert is part of a public roadway completed many years ago, and the temporary nature of the Project construction, the Siting Board does not require the Companies to provide such assurance.	Not applicable.
4	Address the risk of the Culvert collapsing under heavy construction traffic such as 66-ton concrete trucks and 30-ton feller bunchers.	The Siting Board considers that Condition M would address the risk of Culvert collapse.	Condition M.
5	Assume responsibility in repairing existing damages (e.g., cavitations, erosions) and deficiencies (e.g., insufficient road cover, lack of guardrails) on the Culvert and maintaining the Culvert long-term.	Given that the Culvert is a public roadway, and the damages and deficiencies are existing, the Siting Board does not require the Companies to assume responsibility of repairing existing damage. The Siting Board recognizes that the Companies have committed in repairing damages caused by the Project's construction.	Condition M.

No.	CNA Request	Siting Board's Analysis	Siting Board's Condition
6	Absolve the City of Fall River of liability for the Companies heavy use of Copicut Road and the Culvert, including using them beyond the capacities they were designed for.	Whether the use of the Culvert by the Project construction is beyond the culvert design capacities had not been established in the record. However, the Siting Board recognizes that the Companies have committed to repairing damages caused by the Project's construction.	Condition M.
7	Re-pave Copicut Road and re-grade Quanapoag Road after the Project construction.	Given that Copicut Road and Quanapoag Road are public roadways, the Siting Board does not require the Companies to regrade and repave the roads but recognizes that the Companies have committed to repair any specific damages caused by the Project construction.	Condition M.
Rare Species and Habitats			
8	Provide supplemental funding to the Biodiversity Research Institute for the Common Loon Translocation Project as a mitigation measure to this species and the outcome of an adversely impacted 12-year research project.	As noted in Section VI.D.1.c.v, the Siting Board concludes that (i) the Project's impacts on the common loon, if they were to occur, would be temporary and could be avoided through the Companies' mitigation and the common loon's self-avoidance of the disturbed area; (ii) the Companies had performed due diligence in identifying rare species within or near the Proposed ROW, assessing the Project's potential impacts on identified rare species, and minimizing potential impacts on these rare species and their habitats with proposed mitigation measures; and (iii) National Grid is coordinating with DFW and NHESP to identify any recommended species-specific avoidance and minimization measures, and determine BMPs for this species. The Siting Board imposes Condition I to obtain an account of the finalized mitigation	Condition I.

No.	CNA Request	Siting Board's Analysis	Siting Board's Condition
		measures and BMPs for the common loon when they become available.	
9	Submit plans for supporting biodiversity for rare species, including but not limited to Long Eared Bat, Eagle, Loon, Eastern Box Turtle, and Eastern Whip-poor-will.	As noted in Section VI.D.1.c.v, the Siting Board finds the Companies-proposed mitigation measures, including protection plans for the state-listed species pursuant to the CMPs, and completed consultation with the USFWS, addresses the Project's impacts on rare species and their habitats, which would be primarily temporary. The Siting Board imposes Condition H to obtain an account of the CMP approval, including any NHESP-imposed conditions and corresponding species-specific protection plans, when it becomes available.	Condition H.
10	Continue best practices that support native pollinators.	While the Siting Board is generally in favor of pollinator-supporting best practices, there is no discussion of the subject in the record except for a brief mention by National Grid's Project Manager, of how the post-construction scrub-shrub habitats would benefit pollinators (see Tr. A at 28), nor has CNA established any relevant evidence on this subject.	Not applicable.
11	Become a partner in the Southeastern Massachusetts Bioreserve.	See response to number 9 above. Moreover, the Siting Board views this request as CNA's invitation to the Companies, not as a request for the Siting Board to impose a condition for approval.	Not applicable
Police Coverage			
12	Provide $16,000 worth of annual supplemental funding to the FRPD to support overtime coverage required to	As noted in Section VI.D.7.c, the Siting Board found that the Companies have proposed substantial mitigation measures to address CNA's security concerns and, consequently,	Not applicable.

No.	CNA Request	Siting Board's Analysis	Siting Board's Condition
	monitor the Flock cameras and make enforcement response.	CNA's request from the Companies for additional personal or equipment resources to the FRPD unnecessary.	
13	Provide vehicular resources, namely 4x4 and side-by-side vehicles valued at $97,931.99, to the Fall River Environmental Police to secure water quality and neighborhood safety.	The Siting Board considers this request as beyond the scope of the Siting Board's review.	Not applicable.
Water Quality Impacts			
14	Submit an adequate replanting plan with native plants for erosion control and to prevent open access to the edge of the reservoir.	As discussed in Section VI.D.1.c.iv, the Companies would revegetate the cleared area at the edge of the Copicut Reservoir. The Siting Board notes that the area is within the transmission line ROW and the Companies share CNA's concerns about erosion and illegal access.	Not applicable.
15	Conduct regular water quality testing in accordance with the criteria as determined by the City of Fall River Water Department, the Watuppa Water Board, the Fall River Conservation Commission, and any other pertinent regulatory boards.	The Siting Board recognizes that the City of Fall River Water Department already conducts regular water quality testing of its water supply and publishes the results annually in the Water Department's Consumer Confidence Reports. Moreover, the Companies would have to secure an individual Section 401 Water Quality Certification from MassDEP before starting work on the Project.	Not applicable.

Source: CNA Reply Brief at 3-4, with additional analysis by Siting Board Staff.

E. Cost

The Companies developed a -25%/+25% cost estimate for their Proposed Route based on the sum of National Grid's and Eversource's transmission line cost estimate for the Project

(Exhs. EN-2, at 4-25; EFSB-C-3). The Companies' -25%/+25% cost estimate in 2021 dollars are as follows:

Table 21: Project -25%/+25% Cost Estimate in 2021 Dollars.

Project Element	Cost Estimate (million)
Construction of the National Grid's portion of the New Line	$13.9
Construction of the Eversource's portion of the New Line	$36.6
Substation Work at three substations	$2.2
Total Project Cost	$52.7

Source: Exh. EN-2, at 5-35.

While the Companies made no revisions to this cost estimate since they filed the Petition in December 2021, they expected the Project to be delivered within the range of the estimate (Exh. EFSB-C-1; Tr. 1, at 38-39). The Companies stated that more accurate construction costs would be available in the construction bidding process (Tr. 1, at 39-40). The Siting Board directs the Companies to submit to the Siting Board an updated and certified cost estimate for the Project prior to the commencement of construction. Additionally, the Siting Board directs the Companies to file semi-annual compliance reports with the Siting Board starting within 180 days of the commencement of construction, that include projected and actual construction costs and explanations for any discrepancies between projected costs, actual costs, and completion dates.

F. Reliability

The Companies maintain that the New Line is reliable because overhead and underground transmission technologies are both inherently reliable and the Companies would construct the proposed transmission line to meet current codes and standards (Companies Brief at 73-74, citing Exh. EN-2, 4-26). The Siting Board recognizes that the proposed Project, including its design and construction methods, are comparable to other transmission line projects seen and approved previously by the Siting Board.

G. Conclusion on Analysis of Project Impacts

The Siting Board is charged with ensuring jurisdictional facilities approved for construction in the Commonwealth achieve an appropriate balance between environmental

impacts, reliability, and cost. G.L. c. 164, §§ 69H, 69J. See GCEP at 206; Mid Cape Reliability at 87; Beverly-Salem at 108. Based on review of the record, the Siting Board finds that the Companies provided sufficient information to allow the Siting Board to determine whether the Project has achieved a proper balance among cost, reliability, and environmental impacts. CNA made particular arguments regarding various potential environmental impacts of the Project, notably impacts to rare species. As described in Section V, among the candidate route options, the Proposed Route had the second highest natural environment impacts due in large part to natural resources that intersect with the Project ROW, despite scoring best overall when other factors are considered. In short, the Project would have environmental impacts that could be avoided to some degree by use of alternative route options. The Siting Board notes additionally that the comparison of environmental impacts for the different route options was a desktop review, while the Proposed Route necessarily received a more detailed review due to the additional level of engineering conducted by the Companies. However, the cost of the Proposed Route is markedly less (approximately one quarter) than its closest scoring route alternative.

The Siting Board has previously approved more expensive alternatives for added benefits or avoided impacts. However, in approving more expensive routes or project alternatives that offered certain environmental advantages in prior cases, the Siting Board has never accepted a tradeoff to the degree that would be required in this proceeding – that is a quadrupling of the Project's cost. See Sudbury-Hudson; GCEP. See also Sudbury v. Energy Facilities Siting Board, 487 Mass. 737, 738 (2021) ("the board's obligation is to balance the reliability, cost, and environmental impact of each proposal before it. No one factor is determinative, and the board has wide discretion to balance the factors from case to case to achieve its statutory mandate"). This case presents the Board with the unfortunate reality that in view of its statutory obligation to minimize both cost and environmental impacts, while maintaining reliable service, a single project does not always afford the same optimal choice in achieving both objectives. In this case, the balance tilts heavily in favor of the Project given the wide disparity in costs compared to the alternatives. Further, the record shows that comprehensive mitigation of the Project's environmental impacts is addressed by both the Companies' proposed construction methods and the additional conditions imposed by the Siting Board. The Siting Board recognizes the cost

estimates of the Project represent outdated figures, in 2021 dollars; however, the Siting Board finds that increased cost to the Proposed Route would be comparable to increased costs for the other Candidate Routes. See also East Eagle at 80.

In sum, the Siting Board finds that with the implementation of the specified conditions and mitigation presented above, and compliance with all applicable local, state, and federal requirements, the environmental impacts of the Project would be minimized. Therefore, the Siting Board finds that the Project, as proposed and using the Proposed Route, would achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost.

VII. CONSISTENCY WITH POLICIES OF THE COMMONWEALTH

A. Standard of Review

G.L. c. 164, § 69J requires the Siting Board to determine whether plans for construction of the applicant's new facilities are consistent with current health, environmental protection, and resource use and development policies as adopted by the Commonwealth. SouthCoast Wind at 166; GCEP at 206; Mid Cape Reliability at 88; Beverly-Salem at 109.

B. Position of the Parties

The Companies assert that construction and operation of the Project would be fully consistent with state energy policies as articulated in the Electric Utility Restructuring Act of 1997, St. 1997, c. 164 (the "Restructuring Act"), the Green Communities Act, St 2008, c. 169, the Global Warming Solutions Act, St 2008, c. 298 ("GWSA"), the Energy Diversity Act, St 2016, c. 188, the Clean Energy Act, St. 2018, c. 227, and An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy St. 2021, c. 8, ("Roadmap Act") (Companies Brief at 118-125; Exh. EN-2, at 6-1).[53]

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[53] The 2024 Climate Act, St. 2024, c. 239, and Executive Order 654 (March 16, 2026) are additional energy policies of the Commonwealth of Massachusetts that went into effect after this proceeding completed briefs; therefore, these polices were not considered by the parties and not analyzed by the Siting Board in this proceeding.

CNA did not address the issue of consistency with the policies of the Commonwealth in its briefs.

1. Health Policies

The Companies assert that construction and operation of the Project would be consistent with the Commonwealth's health policies (Companies Brief at 119; Exh. EN-2, at 6-1 to 6-6). In support of this assertion, the Companies represent that the Restructuring Act "provides that reliable electric service is of the utmost importance to the safety, health, and welfare of the Commonwealth's citizens and economy" (Companies Brief at 119, citing Restructuring Act, §1 (h) (internal quotation marks omitted); Exh. EN-2, at 6-1). The Companies contend that the Project would bolster the reliability of the grid: "the Project will enhance the reliability of the electric power transmission system in SEMA-RI, enabling the Companies to continue to ensure the availability of sufficient and reliable electric service to the citizens and businesses of the Commonwealth and the region" (Companies Brief at 119, citing Exh. EN-2, at 6-1).

2. Environmental Protection Policies

a. The Natural Environment and GHG Emissions

The Companies argue that the Project would be consistent with the environmental protection policies of the Commonwealth (Companies Brief at 120-124; Exh. EN-2, at 6-1 to 6-6). The Companies contend that the Project would be consistent with the Restructuring Act which, they assert, requires them to demonstrate that the Project minimizes environmental impacts consistent with the minimization of mitigation costs (Companies Brief at 120, citing Exh. EN-2). In support, the Companies reference their mitigation plans as set forth in the analysis filed with the Siting Board Petition (Companies Brief at 120, citing Exh. EN-2, at 6-2). In the Companies' analysis, the Companies state that they will obtain all environmental approvals and permits required by federal, state, and local agencies and will construct and operate the Project to fully comply with applicable federal, state, and municipal regulations and environmental policies (Exh. EN-2, at 6-2).

The Companies also assert that development of the Project would be consistent with MEPA requirements (Companies Brief at 120-121). According to the Companies, the Secretary

of the Executive Office of Energy and Environmental Affairs ("EEA") ("Secretary") issued a Certificate on their Expanded Environmental Notification Form ("EENF") on December 28, 2018 (Companies Brief at 120; see also Exh. EN-5, at 1, 2). Furthermore, the Companies stated that, on August 16, 2023, the Secretary issued a Certificate on the Single Environmental Impact Report ("SEIR") they had submitted (Companies Brief at 121; Exh. EN-5). The Companies maintain that this Certificate determined that the SEIR "adequately and properly complied with MEPA" (Companies Brief at 121, citing Exh. EN-5; Tr. 1, at 44).

In addition, the Companies assert that the Project would be consistent with both the Green Communities Act (as amended by St. 2012, c. 209, An Act Related to Competitively Priced Electricity) and the Energy Diversity Act (Companies Brief at 121-122; Exh. EN-2, at 6-4, 6-5). One of the principal purposes of both these acts, the Companies contend, is the promotion of renewable energy (Companies Brief at 121-122; Exh. EN-2, at 6-4, 6-5). The Companies assert the Project would be consistent with these acts because it would create a more robust system that will enable a stronger, more efficient and flexible operation of the grid (Companies Brief at 121; Exh. EN-2, at 6-4). According to the Companies, this "more robust system" would be better able to accommodate various energy resources that may come online in the future as a result of the Energy Diversity Act (Companies Brief at 122; Exh. EN-2, at 6-5) and would also facilitate the interconnection of renewable energy (Companies Brief at 121; Exh. EN-2, at 6-4).

The "more robust system," the Companies argue, "will be better able to accommodate future clean energy projects at the large scale that will be necessary to achieve" the emission reduction goals established by the GWSA (Companies Brief at 123; see also Exh. EN-2, at 6-4). According to the Companies, the GWSA initially set an emissions reduction target of 25 percent below 1990 levels by 2020 and 80 percent below the same levels by 2050 (Companies Brief at 122, citing Exh. EN-2, at 6-4). Furthermore, the Companies state that the Secretary has established even stricter emissions limits through various clean energy and climate plans she has issued (Companies Brief at 122-123; Exh. EN-2, at 6-4). Therefore, the Companies argue, the Project would be consistent with the GWSA (Companies Brief at 122-123; Exh. EN-2, at 6-5).

Furthermore, the Companies argue that the Project would be consistent with the Roadmap Act (Companies Brief at 123, 124; Exh. EN-2, at 6-5). The Companies state that the Roadmap Act advances and extends the goals of the GWSA (Companies Brief at 123; Exh. EN-2, at 6-5). It does so, the Companies maintain, by establishing new interim goals for emissions reduction and by codifying the commitment to a reduction of emissions to a level not greater than 85 percent of 1990 levels (Companies Brief at 123; Exh. EN-2, at 6-5). The Companies contend that, by facilitating the growth of clean energy, the Project would help the Commonwealth meet its ambitious emission reduction goals (Companies Brief at 123).

Finally, the Companies address the Project is consistent with the Clean Energy Act (Companies Brief at 123). This act encourages the creation of both additional energy storage and clean energy sources (Companies Brief at 123). By improving the reliability of the transmission system in the SEMA-RI area, the Companies assert, the Project would enhance the Companies' ability to accommodate new energy storage units as well as other clean energy resources such as solar and wind-generated energy (Companies Brief at 123). Therefore, the Companies argue, the Project would be consistent with the Clean Energy Act (Companies Brief at 123).

b. Environmental Justice

The Companies argue that their Project is consistent with the environmental justice ("EJ") provisions of the Roadmap Act (Companies Brief at 123). The Companies assert that the Roadmap Act contains several provisions that enhance and codify the Commonwealth's EJ policies including opportunities for meaningful participation by persons in EJ populations within proximity to proposed projects (Companies Brief at 123). The Companies represent that there are EJ populations located within one mile of the Project in both Acushnet and Fall River based on "minority and/or income" criteria (Companies Brief at 116; Exh. EN-2, at 5-34). According to the Companies, the Project's only significant impacts are likely to be those caused by construction (Companies Brief at 117; Exh. EN-2, at 5-34). Furthermore, the Companies state that these impacts would be temporary (i.e., limited to the duration of construction), minimal and mitigated (Companies Brief at 117; Exh. EN-2, at 5-34). The Companies also argue that the

energy and environmental advantages of the Project, once operational, would benefit EJ populations (Companies Brief at 124).

MEPA regulations and protocols promulgated pursuant to the Roadmap Act became effective on January 1, 2022,[54] after the Petitions were filed and the EENF and the Certificate on the EENF were issued (Exh. EN-5, at 1, 4). Nevertheless, the Companies stated that they "are committed to the principles contained in the MEPA Environmental Justice Protocols" and therefore "provided this analysis and information on public outreach to ensure that the issues are addressed, and that EJ populations and community groups are given an opportunity to participate in the environmental review of the Project" (Exh. EN-4, at 77). The Companies' SEIR included a baseline assessment of public health and environmental impacts and discussed the Project's potential impact to EJ populations (Exh. EN-5, at 6). The Companies also stated that they facilitated "meaningful participation" by providing notification of the Project and conducting Project open houses to engage with residents in English, Spanish, and Portuguese (Companies Brief at 124; Exh. EN-2, at 6-5). The Companies explained that they identified Portuguese and various dialects spoken in the area by using EEA's EJ Mapper and consulting local stakeholders (Exh. EN-5, at 6). The Companies also provided advanced notification to a list of community-based organizations and Indigenous Tribes provided by MEPA (Exh. EN-5, at 6).

The Companies established a community and public outreach program that included opportunities for public education and input (Exh. EN-5, at 6). The Companies also mailed Project letters and notices for community meetings to abutters within 300 feet of the Project's ROW edge and one quarter mile of the substations (Exh. EN-5, at 6). The Companies also published notices for the public meetings in local Portuguese and English newspapers and provided interpretation at those meetings (Exh. EN-5, at 7). The Companies' translated their websites and materials into Spanish, Portuguese, and Portuguese dialects (Exh. EN-5, at 7).

According to the Companies' baseline assessment of public health impacts, there were existing "unfair or inequitable" burdens impacting the EJ populations identified in the Project

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54 See https://www.mass.gov/doc/mepa-public-involvement-protocol-for-environmental-justice-populations-effective-date-of-january-1-2022-rev-march-25-2026/download.

area (Exh. EN-5, at 7). Using the Department of Public Health EJ Tool,[55] the Companies identified Fall River and New Bedford as municipalities that have EJ populations with "vulnerable health EJ criteria" for Heart Attack rate, Childhood Blood Lead Levels, Low Birth Weigh rates and Childhood Asthma rates (Exh. EN-5, at 7). Acushnet and Dartmouth had populations exhibiting vulnerable health EJ criteria for Heart Attack (Exh. EN-5, at 7). The Companies' SEIR also identified existing sources of potential pollution within the identified EJ populations using the EJ Tool (Exh. EN-5, at 7). Additionally, the SEIR also described environmental indicators tracked through the U.S. EPA's "EJ Screen," a mapping and screening tool using nationally consistent data[56] (Exh. EN-5, at 7).

The Companies argue that the Project would not result in adverse impacts to EJ populations (Exh. EN-5, at 8). The Companies explained that no facilities proposed would result in long-term air emissions (Exh. EN-5, at 8). The Companies added that the Project would avoid new impacts to EJ populations by siting within the existing ROW (Exh. EN-5, at 8). The Companies stated that there would be no reduction in or conversion of public open space since the Project will be located within the Companies' existing ROWs (Exh. EN-4, at 77). Additionally, by siting the Project within existing ROW, the Companies are further avoiding any new impacts to EJ populations associated with new disturbance/alteration of previously undeveloped areas for a new utility line corridor (Exh. EN-4, at 77). During the construction phase, the Company acknowledged that the Project may pose intermittent and localized increases in noise, dust, and emissions from construction vehicles and related equipment (Exh. EN-5, at 8). However, the Companies committed to measures to minimize and mitigate these temporary impacts as discussed in the mitigation section above (Exhs. EN-2, at 5-15, 5-30; EN-5, at 18-19).

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55 The Massachusetts Department of Public Health EJ Tool is available at: https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html.

56 The U.S. EPA formerly hosted the EJ Screen tool on its website, though the tool is no longer available through the federal government. See https://19january2021snapshot.epa.gov/ejscreen_.html.

The Companies also noted that the Project would mitigate transmission issues in the Project area (Exh. EN-5 at 8). The Companies asserted that the Project would address ISO-NE's determination that additional transmission capacity is needed within the Project Load Pocket (which includes several EJ populations) (Exh. EN-5, at 2). The Company noted that the Project would benefit all communities in Southeastern Massachusetts (including EJ populations) as it will result in a stronger electrical transmission system that is vital to the area's safety, security and economic prosperity (Exh. EN-4, at 83).

3. Resource Use and Development Policies

The Companies represent that the Project would be consistent with the resource use and development policies of the Commonwealth (Companies Brief at 124, 125; Exh. EN-2, at 6-6). In particular, the Companies point to the Smart Growth/Smart Energy policy established by the EEA in 2007 ("Smart Growth & Energy Policy") (Companies Brief at 124; Exh. EN-2, at 6-6). These principles, the Companies state, include (1) supporting the revitalization of city centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources and integrates uses; (2) encouraging remediation and reuse of existing sites, structures and infrastructure rather than new construction in undeveloped areas; and (3) protecting environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources and cultural and historic landscapes (Companies Brief at 124, 125; Exh. EN-2, at 6-6). Because the Project would be located within existing electric transmission line ROWs, the Companies assert, it would be consistent with these principles (Companies Brief at 124, 125; Exh. EN-2, at 6-6).

C. Analysis and Findings

1. Consistency with Health Policies

The Restructuring Act noted the fundamental importance of reliable electric service to public health in declaring that "electricity service is essential to the health and well-being of all residents of the Commonwealth" and that "reliable electric service is of utmost importance to the safety, health, and welfare of the Commonwealth's citizens and economy." St. 1997, c. 164. A project that increases reliability in electric service would also be deemed to contribute to the

health of the Commonwealth's citizens. GCEP at 213; Mid Cape Reliability Project at 89; Beverly-Salem at 109. In Section V.D above, the Siting Board found that the Project would ensure a reliable electric supply for the Commonwealth. Therefore, the Siting Board concludes that the Project's reliability benefits will result in health benefits to Commonwealth residents. Accordingly, subject to the specified mitigation and conditions set forth herein, the Siting Board finds that the Companies' plans for construction of the Project would be consistent with current health policies of the Commonwealth.

2. Consistency with Environmental Laws, Regulations, and Policies

a. The Global Warming Solutions Act and Updates

The GWSA, enacted in August 2008, and updated in 2016 and 2018, constitutes a comprehensive statutory framework to address climate change in Massachusetts. St. 2008, c. 298.[57] The GWSA requires the Commonwealth to reduce its greenhouse gas ("GHG") emissions by 10 to 25 percent below 1990 levels by 2020, and by at least 80 percent below 1990 levels by 2050. G.L. c. 21N, §3(b). These requirements have been strengthened and expanded upon in the past few years.[58,59] Furthermore, the GWSA also obligates administrative agencies to consider reasonably foreseeable climate change impacts and related effects when reviewing permit requests. G.L. c. 30, § 61.

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[57] G.L. c. 164, § 69J requires consistency with environmental protection policies of the Commonwealth but does not explicitly recognize energy policies. However, the Siting Board accomplishes its statutory mandate to ensure reliable energy supply with minimum impact on the environment at the lowest possible cost within the context of current energy policies of the Commonwealth. G.L. c. 164, § 69H; see also Mid Cape Reliability Project at 90, n.69; Beverly-Salem at 110 n.95.

[58] The Siting Board takes administrative notice of the following policies of the Commonwealth: "Determination of Statewide Emissions Limit for 2050" dated April 22, 2020; "Massachusetts 2050 Decarbonization Roadmap" dated December 30, 2020; and the "Clean Energy and Climate Plan for 2025 and 2030" dated June 30, 2022. 980 CMR 1.06(7).

[59] GWSA provisions have been updated in the Energy Diversity Act and the Clean Energy Act.

To implement the GWSA, the Secretary issued two documents in 2020. On April 22, 2020, pursuant to the GWSA, the Secretary issued a "Determination of Statewide Emissions Limit for 2050"[60] ("2050 Determination") which established a "net zero" level of statewide greenhouse gas emissions. The 2050 Determination defined net zero as "[a] level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored annually by, or attributable to, the Commonwealth; provided, however, that in no event shall the level of emissions be greater than a level that is 85 percent below the 1990 level" (2050 Determination at 1).

On December 30, 2020, Secretary issued the "Massachusetts 2050 Decarbonization Roadmap"[61] ("2050 Roadmap"). The 2050 Roadmap provides the Commonwealth with near- and long-term strategies to achieve the goal of reaching net zero GHG emissions by 2050. The importance of additional electric transmission infrastructure in achieving net zero GHG emissions in a cost-effective manner is one of the key findings of the 2050 Roadmap: "Additional transmission increases access to, and the ability to share, additional low-cost clean energy resources across the Northeast, lowering costs overall" (2050 Roadmap at 15). The 2050 Roadmap underscores the importance of maintaining and enhancing transmission capability in Massachusetts to provide cost-effective, reliable service, and facilitate development and use of both local and regional clean and renewable resources (2050 Roadmap at 59, 65). In addition, the 2050 Roadmap identifies a need for increasing electrification to achieve deep GHG emission reductions and envisions the widespread deployment of electric vehicles in place of gasoline and diesel engines, and of heat pump-based electrified heating and hot water systems in place of gas and oil furnaces, boilers, and water-heating equipment (2050 Roadmap at 35, 44).

On March 26, 2021, Governor Baker signed the Roadmap Act which updates the GHG emissions limits in the 2008 GWSA, codifies Massachusetts' commitment to achieve net zero emissions in 2050, and authorizes the Secretary of EEA to establish a GHG limit based on an

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60 See https://www.mass.gov/doc/final-signed-letter-of-determination-for-2050-emissions-limit/download.

61 See https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download.

emissions reduction of at least 50 percent below 1990 levels for 2030, and at least 75 percent for 2040. G.L. c. 21N, § 4(h). Acting pursuant to the Roadmap Act, the Secretary issued the Clean Energy and Climate Plan for 2025 and 2030[62] ("2025-2030 CECP") on June 30, 2022. This document updated key strategies the Commonwealth will use to reach the statutorily required 50 percent reduction in GHG emissions below 1990 levels by 2030. By letter issued contemporaneously with the 2025-2030 CECP, the Secretary set the 2025 statewide GHG emissions limit at 33 percent below 1990 levels and at least 50 percent below 1990 levels by 2030 (2025-2030 CECP at 2). As noted in the 2025-2030 CECP, electricity demand in the Commonwealth is projected to increase significantly by 2050 due to the widespread electrification of building and transportation services (2025-2030 CECP at 62).

These policies confirm the importance of a robust and reliable transmission system. The Siting Board found in Section III, supra, that construction of the Project would create a more robust transmission system, that would be better able to accommodate future clean energy projects at the large scale necessary to achieve the emission reduction goals established by the GWSA and related statutes and policies. The Siting Board also finds that by facilitating these emissions reduction goals, the Project would have beneficial impact on climate change. Therefore, the Siting Board finds that the Project would be consistent with the environmental laws, regulations, and policies of the Commonwealth.

b. Consistency with Environmental Justice Policy

The Roadmap Act requires implementation of EJ principles, "the equitable distribution of energy and environmental benefits and environmental burdens." St. 2021 c. 8 § 56; G.L. c. 30, § 62. The Roadmap Act amended Section 62 of Chapter 30 to define environmental benefits as "the access to clean natural resources, including air, water resources, open space, constructed playgrounds and other outdoor recreational facilities and venues, clean renewable energy sources, environmental enforcement, training, and funding disbursed or administered by the executive office of energy and environmental affairs." The Roadmap Act also defines

62 See https://www.mass.gov/doc/clean-energy-and-climate-plan-for-2025-and-2030/download.

environmental burdens as "any destruction, damage or impairment of natural resources that is not insignificant, resulting from intentional or reasonably foreseeable causes, including but not limited to, climate change, air pollution, water pollution, improper sewage disposal, dumping of solid wastes and other noxious substances, excessive noise, activities that limit access to natural resources and constructed outdoor recreational facilities and venues, inadequate remediation of pollution, reduction of ground water levels, impairment of water quality, increased flooding or storm water flows, and damage to inland waterways and waterbodies, wetlands, marine shores and waters, forests, open spaces, and playgrounds from private industrial, commercial or government operations or other activity that contaminates or alters the quality of the environment and poses a risk to public health." St. 2021 c. 8 § 56; G.L. c. 30, § 62. The record shows that there are EJ populations within one mile of the Project ROW and substations.

The 2021 EJ Policy, updated by the Roadmap Act, requires enhanced public participation and enhanced analysis in those cases in which the Project is located within one mile of an EJ population and if a Project triggers certain MEPA thresholds (EJ Policy at 11). The EJ Policy also requires enhanced public participation or analysis in those cases in which the Project exceeds the mandatory EIR threshold for air and would be located within five miles of an EJ population. The Project does not meet the MEPA thresholds or the EIR threshold for enhanced public participation or enhanced analysis (Exh. EN-5, at 8). The record shows that the Companies have provided language access for limited English proficiency populations in the Project area, specifically, those who speak Spanish or Portuguese. As described above, the Siting Board's procedures also included provision of services in these languages, in line with the Board's language access plan. The Siting Board finds that the construction and operation of the Project would be consistent with the EJ Policy.

The record shows that MEPA's regulations and protocols regarding EJ, developed in response to the Roadmap Act, were finalized after the Project's ENF and Petitions to the Siting Board. Therefore, the requirements in the MEPA protocols were not applicable to the Project and its outreach. The Siting Board notes that the MEPA Office had released interim protocols prior to January 2022, but that the protocols were only effective after that date. Nevertheless, the

Companies provided materials responsive to the final versions of the protocols as part of their SEIR filing, including a baseline assessment of public health and environmental impacts.

While the MEPA protocols are not applicable to this Project, the Siting Board appreciates that the Companies provided this information and used it to evaluate the Project in relation to the broad EJ requirements of the Roadmap Act. The record shows that there are existing environmental burdens and impacts to public health in the Project area. The Project, however, would not contribute additional air emission impacts during operation, and the use of the existing ROW reduces the creation of new impacts to the local EJ populations. Additionally, the Siting Board directs the Companies to use construction practices according to BMPs as described in this decision, to minimize environmental burdens. The Siting Board also finds in this decision that environmental impacts would be minimized and mitigated. See Section VI.G. The record also shows that the Project would contribute to improvements in reliability of the transmission system, which would directly benefit the surrounding EJ populations by avoiding service disruptions in the Project Load Pocket in which the EJ populations are located. See Section III. As noted above, reliability constitutes a significant health benefit. Mid Cape Reliability Project at 89; see also, Beverly-Salem at 109.

Therefore, the Siting Board finds that overall, the Project is consistent with an equitable distribution of energy and environmental benefits and environmental burdens, and with the EJ principles articulated in the Roadmap Act and EJ Policy.

3. Consistency with Resource Use and Development Policies

The Smart Growth & Energy Policy established the Commonwealth's Sustainable Development Principles. These principles include (1) supporting the revitalization of city centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources and integrates uses; (2) encouraging remediation and reuse of existing sites, structures and infrastructure rather than new construction in undeveloped areas; and (3) protecting environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources, and cultural and historic landscapes (Exh. EN-2, at 6-6). The Project would use existing electric transmission ROWs, which would be consistent with the policy of reusing

existing sites (Exh. EN-2, at 4-1, 6-6). Therefore, the Siting Board finds that construction of the Project would be consistent with the resource use and development policies of the Commonwealth.

D. Conclusion

Subject to the specified mitigation and conditions set forth in this Decision, the Siting Board finds that the Companies' plans for construction of the Project along the Proposed Route would be consistent with the current health, environmental protection, and resource use and development policies as adopted by the Commonwealth.

VIII. ANALYSIS UNDER G.L. C. 164, § 72

The 2024 Climate Act became effective February 18, 2025, and made a number of changes to the Siting Board's jurisdiction. St. 2024, c. 239. One of the changes was to transfer jurisdiction over transmission line siting under G.L. c. 164, § 72 ("Section 72") from the Department to the Siting Board, effective March 1, 2026. St. 2024, c. 239, §§ 75, 139. In addition, the 2024 Climate Act limited the applicability of Section 72 to eminent domain proceedings under G.L. c. 79. St. 2024, c. 239, § 75. Therefore, on March 1, 2026, transmission providers are no longer required to obtain approval to construct "a line for the transmission of electricity for distribution" pursuant to Section 72 other than for eminent domain approval. Id.

The Companies' Petitions in this proceeding include a Section 72 Petition, filed December 22, 2021, before the enactment or effective date of the 2024 Climate Act, and the Act's changes to Section 72. The new regulations implementing the Consolidated Permit program apply to projects filed on July 1, 2026, and after, and therefore do not apply to this Project. See 980 CMR 13.00. This Project consists of transmission lines over which the Siting Board has continued jurisdiction under G.L. c. 164, § 69J. The Siting Board retains the obligation under Sections 69H and 69J to ensure that this Project is needed, that it minimizes costs, and that it avoids, minimizes and mitigates environmental impacts, substantively fulfilling the scope of a Section 72 review. Given the change in the scope of Section 72 and the Siting Board's continued jurisdiction over the Project under G.L. c. 164, § 69J, the Siting Board

concludes that it is not necessary to make findings under Section 72 for this Project. We note that this finding does not apply to any projects filed before the effective date of the 2024 Climate Act and were not also filed under G.L. c. 164, § 69J.

IX. SECTION 61 FINDINGS

MEPA provides that "[a]ny determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the Project and a finding that all feasible measures have been taken to avoid or minimize said impact" and shall consider reasonably foreseeable climate change impacts, including additional GHG emissions, and effects, such as predicted sea level rise ("Section 61 Findings"). G.L. c. 30, § 61. Pursuant to 301 CMR 11.01(4)(c), Section 61 Findings are necessary when an EIR is submitted to the Secretary; and Section 61 Findings should be based on such EIR. Where an EIR has not been required and the Secretary has not required additional review, Section 61 Findings are not necessary. 301 CMR 11.01(4).

The Siting Board generally is not required to make G.L. c. 30, § 61, findings in a G.L. c. 164, § 69J, proceeding, as actions by the Siting Board are exempt by statute from MEPA. G.L. c. 164, §69 I. However, the Siting Board has complied with MEPA with respect to reviewing the Section 72 Petition, where the Section 72 Petition was filed under statutory provisions implemented by the Department, because the Department is not exempt from MEPA. The Siting Board notes that Section 72 is now under the jurisdiction of the Siting Board, and not the Department. Because the Siting Board's review in this proceeding is pursuant to G.L. c. 164, § 69J, not pursuant to Section 72, the Siting Board is not required to make Section 61 Findings in this proceeding.

X. DECISION

The Siting Board's enabling statute directs the Siting Board to implement the energy policies contained in G.L. c. 164, §§ 69H to 69Q, to provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost.

G.L. c. 164, § 69H. Thus, an applicant must obtain Siting Board approval under G.L. c. 164, § 69J, prior to construction of a proposed energy facility.

In Section III, above, the Siting Board finds that the Project is needed for reliability, and that the need is immediate.

In Section IV, above, the Siting Board finds that the Project is superior to the other alternatives identified with respect to providing a reliable energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost.

In Section V, above, the Siting Board finds that the Companies have demonstrated that they examined a reasonable range of practical siting alternatives and that their proposed facilities are sited in locations that minimize cost and environmental impacts while ensuring a reliable electric supply.

In Section VI, above, the Siting Board finds that the Project, as proposed and using the Proposed Route, would achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost.

In Section VII, above, the Siting Board finds that the Companies' plans for construction of the Project along the Proposed Route would be consistent with the current health, environmental protection, and resource use and development policies as adopted by the Commonwealth.

Accordingly, the Siting Board [approves] pursuant to G.L. c. 164, § 69J, the Companies' Petition to construct the Project using the Proposed Route, as described herein, subject to the following Conditions A through P:

A. The Siting Board directs the Companies to submit to the Siting Board the Outreach Plan at least 60 days prior to the start of the Project construction.

B. The Siting Board directs the Companies to submit to the Siting Board a copy of the final Avoidance and Protection Plan and, if any, Post Review Discoveries Plan, whenever they become publicly available.

C. The Siting Board directs the Companies to submit to the Siting Board, at least 60 days prior to the start of the Project construction, a report of any additional tree removal, beyond the 27.5 acres within the Proposed Route ROW, as well as removal of danger trees and hazard trees, required for the Project construction, and corresponding mitigation measures for this tree removal. In addition, the

Companies consultations with NHESP and USACE may include planting trees elsewhere.

D. The Siting Board directs, as specified in the SEIR Certificate, the Companies to implement best forestry mitigation practices during tree removal and vegetation removal, including the use of site-specific forestry means and methods to minimize environmental impacts.

E. The Siting Board directs the Companies to submit to the Siting Board a description of NHESP- and USACE-required tree re-planting mitigation, including the location and area where re-planting would take place, when these requirements are finalized.

F. The Siting Board directs the Companies to comply with the stormwater management and erosion control requirement of the approximately 6,524 linear feet of new access road spurs, as reflected in the Project's SWPPP and Soil Erosion and Sedimentation Plan.

G. The Siting Board directs the Companies to provide to the Siting Board, at least 60 days prior to the start of construction, confirmation that they will implement a time of year restriction on tree removal to avoid a "take" of the eastern whip-poor-will, including a letter of acknowledgement from NHESP.

H. The Siting Board directs the Companies to submit to the Siting Board the CMP approval, including any NHESP-imposed conditions and corresponding species-specific protection plans, when available.

I. The Siting Board directs the Companies to submit to the Siting Board an account of the finalized mitigation measures and BMPs for the common loon from the Companies' consultation with DFW and NHESP.

J. The Siting Board directs the Companies to submit to the Board the no-net-loss-of-wetland-functions mitigation package when it becomes available.

K. To further mitigation of construction noise, the Siting Board directs the Companies to limit construction to the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday and to the hours of 9:00 a.m. to 5:00 p.m. on Saturdays. Work requiring longer continuous duration than normal construction hours allow, such as concrete pours and transmission line stringing, is exempted from this requirement. Should the Companies anticipate the need to extend construction work beyond the above-noted hours and days, with the exception of emergency circumstance on a given day necessitating extended hours, the Siting Board directs the Companies to seek written permission from the relevant municipal authority before the commencement of such work, and to provide the Siting Board with a copy of such permission. If Companies and municipal officials are not able to agree on whether such extended construction hours should occur, the Companies may request prior authorization from the Siting Board and shall

provide the relevant municipality with a copy of any such request and authorization, if granted.

L. The Siting Board directs the Companies to: (1) develop, in consultation with affected municipalities and MassDOT, TMPs for all ROW access points, including but not limited to that on Bell Rock Road, Yellow Hill Road, Copicut Road, and Quanapoag Road in the City of Fall River; and Apple Blossom Lane and Main Street in Acushnet, Duchaine Boulevard in New Bedford, and Flag Swamp Road in Dartmouth; and (2) submit the finalized TMPs at least 60 days prior to the start of the Project construction to the affected municipalities.

M. The Siting Board directs the Companies to, at least 60 days prior to the start of the Project construction, either: (1) provide a confirmation letter from the City of Fall River Engineering Department detailing the age, design load rating, and current condition of the Culvert, alongside any available as-built plans, or (2) provide an independent structural assessment from a licensed engineer of the Culvert to determine the structural integrity and load rating to confirm that it meets the H-20 standard. In addition, the Siting Board encourages the Companies to support the City of Fall River in exploring funding opportunities for improving the Culvert, e.g., the state's Culvert Replacement Municipal Assistance Grant Program.

N. The Siting Board directs the Companies to submit to the Siting Board an updated and certified cost estimate for the Project prior to the commencement of construction.

O. The Siting Board directs the Companies to file semi-annual compliance reports with the Siting Board starting within 180 days of the commencement of construction, that include projected and actual construction costs and explanations for any discrepancies between projected costs, actual costs, and completion dates.

P. The Siting Board directs the Companies to use construction practices according to BMPs as described in this decision, to minimize environmental burdens.

Because issues addressed in this Decision relative to this facility are subject to change over time, construction of the proposed Project must be commenced within three years of the date of the Decision.

In addition, the Siting Board notes that the findings in this Decision are based upon the record in this case. A Project proponent has an absolute obligation to construct and operate its facility in conformance with all aspects of its proposal as presented to the Siting Board. Therefore, the Siting Board requires the Companies, and any successor in interest, to notify the Siting Board of any changes other than minor variations to the proposal so that the Siting Board may decide whether to inquire further into a particular issue. The Companies or its successors in

interest are obligated to provide the Siting Board with sufficient information on changes to the proposed Project to enable the Siting Board to make these determinations.

The Secretary of the Department shall transmit a copy of this Decision to the Executive Office of Energy and Environmental Affairs, and the Companies shall serve a copy of this Decision on the following: (1) the Town Clerk, the Town Administrator, the Department of Public Works, the Zoning Board of Appeals, and the Building Department for the Town of Acushnet; (2) the Mayor's Office, the City Clerk, the City Administrator, the Zoning Board of Appeal, the Public Works Department, and the Conservation Commission for the City of Fall River; (3) the Town Clerk, the Town Administrator, the Department of Public Works, the Zoning Board of Appeals, and the Building Department for the Town of Dartmouth; and (4) the Mayor's Office, the City Clerk, the City Administrator, the Zoning Board of Appeal, the Public Works Department, and the Conservation Commission for the City of New Bedford. The Companies shall certify to the Secretary of the Department within ten business days of issuance that such service has been made.

Connor C. Tarr
Connor C. Tarr, Presiding Officer
Energy Facilities Siting Board

Dated this 10th day of April 2026

[APPROVED] by a [unanimous] vote of the Energy Facilities Siting Board at its meeting on April 21, 2026, by the members present and voting. Voting for the Final Decision as amended: Rebecca L. Tepper, Secretary of Energy and Environmental Affairs and Chair, Energy Facilities Siting Board; Jeremy McDiarmid, Chair, Department of Public Utilities; Elizabeth Mahony, Commissioner, Department of Energy Resources; Bonnie Heiple, Commissioner, Department of Environmental Protection; Douglas Gutro, Director of the Permit Regulatory Office and designee for Eric Paley, Secretary, Executive Office of Economic Development; Thomas O'Shea , Commissioner, Department of Fish and Game; Dr. Robert Goldstein, Commissioner, Department of Public Health; and Joseph C. Bonfiglio, Public Member.

_____
Rebecca Tepper, Chair
Energy Facilities Siting Board

Dated this ___th day of April, 2026

Appeal as to matters of law from any final decision, order or ruling of the Siting Board may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Siting Board be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Siting Board within twenty days after the date of service of the decision, order or ruling of the Siting Board, or within such further time as the Siting Board may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the clerk of said court. Massachusetts G.L., Chapter 25, Sec. 5; G.L. Chapter 164, Sec. 69P.