State Project No. 158-214 | Federal Project No. **0136 (056)**

Environmental Assessment/Programmatic Section 4(f) Evaluation and Environmental Impact Evaluation (EA/EIE) Rehabilitation/Replacement of William F. Cribari Memorial Bridge (Bridge No. 01349) Westport, CT (District 3)

Federal Highway Administration
U.S. Department of Transportation

Connecticut Department of Transportation

February 2026

Rehabilitation/Replacement of William F. Cribari Memorial Bridge
(Bridge No. 01349)
Westport, CT
State Project No. 158-214
Federal Project No. 0136 (056)

Environmental Assessment / Programmatic Section 4(f) Evaluation
and
Environmental Impact Evaluation

Submitted
Pursuant to Public Law 91-190
National Environmental Policy Act
and
CGS 22a-1 through 22a-1h
Connecticut Environmental Policy Act
by the
Federal Highway Administration
and Connecticut Department of Transportation

02/10/2026
Date of Approval

John McAvoy, P.E.
Division Administrator, Connecticut
Federal Highway Administration

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Transportation Assistant Planning Director
Connecticut Department of Transportation

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:
The Connecticut Department of Transportation (CTDOT) and the Federal Highway Administration (FHWA) have prepared this Environmental Assessment/Programmatic Section 4(f) Evaluation and Environmental Impact Evaluation (EA/EIE) to examine the potential environmental impacts of the alternatives being considered for the Rehabilitation/Replacement of the William F. Cribari Memorial Bridge (Bridge No. 01349) located in the Town of Westport, CT.

This document explains why the project is being proposed, what alternatives have been considered, how the existing environment could be affected by the project, the potential impacts of each of the alternatives and the proposed avoidance, minimization, and/or mitigation measures of these impacts.

What you should do:
Please read this document.
Copies of the document may be downloaded at https://portal.ct.gov/environmentaldocuments or on the Cribari Bridge project website at: https://portal.ct.gov/Cribari-Bridge Additional copies of this document are available and may be viewed at the agencies/addresses below:

CTDOT
2800 Berlin Turnpike
Newington, CT 06111

FHWA CT Division Office
450 Main Street, Ste 612
Hartford, CT 06103

WestCOG
1 Riverside Road
Sandy Hook, CT 06482

Westport Town Hall
Westport Town Clerk's Office
110 Myrtle Avenue
Westport, CT 06880

The Westport Library
20 Jesup Road
Westport, CT 06880

How to Participate:
Let us know what you think. If you have comments about the proposed project, please attend the public hearing and/or send your written comments via postal mail or email to CTDOT at https://bit.ly/158-214Westport by the deadline.

A public hearing will be held on Thursday, March 19, 2026 at 6:00 pm in the Westport Town Hall at 110 Myrtle Avenue in Westport, CT. Open House begins at 6:00 p.m. Formal Presentation begins at 7:00 p.m. The meeting is ADA accessible. Language assistance and/or ADA accommodations are provided at no cost to the public and efforts will be made to respond to timely requests for assistance. For hearing/speech disabilities, dial 711 for Telecommunications Relay Services (TRS). Request language assistance from CTDOT's Language Assistance at (860) 594-2109 at least five business days before meeting.

Send your written comments via Postal mail to CTDOT addressed to ATTN: James Barrows, 2800 Berlin Turnpike P.O. Box 317546, Newington, CT 06131-7546 and send comments via email to the project website before close of business on Friday, April 17, 2026.

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List of Figures and Tables

List of Acronyms and Abbreviations

Acronym or Abbreviation	Full Form or Unabbreviated Name or Phrase
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
AM	morning
APA	Aquifer Protection Area
APE	Area of Potential Effect
AVE	Area of Visual Effect
BFE	base flood elevation
BGEPA	Bald and Golden Eagle Protection Act of 1940

BMP	Best Management Practice
CCMA	Connecticut Coastal Management Act
CEPA	Connecticut Environmental Policy Act
CERC	Connecticut Economic Resource Center
CFR	Code of Federal Regulations
CGS	Connecticut General Statutes
CJL	Coastal Jurisdictional Line
CO	carbon monoxide
CT	Connecticut
CTDEEP	Connecticut Department of Energy and Environmental Protection
CTDOT	Connecticut Department of Transportation
CT ECO	Connecticut Environmental Conditions Online
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DOA	Connecticut Department of Agriculture
DWSE	design water surface elevation
EA	Environmental Assessment
ECG	East Coast Greenway
ECOS	Environmental Conservation Online System
EFH	essential fish habitat
EFHA	EFH Areas Protected from Fishing
EIE	Environmental Impact Evaluation
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAST	Fixing America's Surface Transportation Act
FCMA	Magnuson-Stevens Fishery Conservation and Management Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
ft	feet
GARFO	NMFS Greater Atlantic Regional Fisheries Office
GCN	Greatest Conservation Need
GHG	greenhouse gas
GIS	Geographic Information Systems
HAPC	Habitat Areas of Particular Concern
HAT	Highest Astronomical Tide
HESD	Habitat and Ecosystem Services Division
HTL	high tide line
I-95	Interstate 95
IPaC	Information for Planning and Consultation
LIS	Long Island Sound
LOS	level of service
LWCF	Land and Water Conservation Fund Act

MASH	Manual for Assessing Safety Hardware
MBTA	Migratory Bird Treaty Act of 1918
MLW	mean low water
MOA	memorandum of agreement
mph	miles per hour
MPT	maintenance and protection of traffic
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NAVD 88	North American Vertical Datum of 1988
NDDB	Natural Diversity Data Base
NED	New England District
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NLEB	northern long-eared bat
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OEC	Office of Environmental Compliance
OPM	Office of Policy and Management
PAC	Project Advisory Committee
PIP	Public Involvement Plan
PM	evening/night
POCD	Plan of Conservation and Development
PRD	Protected Resource Division
RCSA	Regulations of Connecticut State Agencies
Route 1	U.S. Route 1
Route 136	State Route 136
Route 33	State Route 33/Riverside Avenue
ROW	right-of-way
RSR	Cribari Bridge Rehabilitation Study Report
SAV	submerged aquatic vegetation
SHPO	Connecticut State Historic Preservation Office
SLR	sea level rise
SNBI	Specifications for National Bridge Inventory
STIP	Statewide Transportation Improvement Program
SWEL	Stillwater Elevation
T&E	threatened and endangered
THPO	Tribal Historic Preservation Officer

TOD	transit-oriented design
TOY	time of year
UConn	University of Connecticut
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Services
USGS	U.S. Geological Survey
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VPI	Virtual Public Involvement
WestCOG	Western Connecticut Council of Governments

Executive Summary

The Federal Highway Administration (FHWA) and the Connecticut Department of Transportation (CTDOT) have prepared a Joint Environmental Assessment/Environmental Impact Evaluation (EA/EIE) and Programmatic 4(f) Evaluation for the rehabilitation/replacement of the William F. Cribari Memorial Bridge (Bridge No. 01349) (Cribari Bridge). This document has been prepared as a joint EA/EIE to meet the requirements of an Environmental Assessment (EA) for the National Environmental Policy Act (NEPA) under the oversight and approval of FHWA and also for the Environmental Impact Evaluation (EIE) for the Connecticut Environmental Policy Act (CEPA) under the oversight and approval of the State of Connecticut Office of Policy and Management (OPM). Referred to as the EA/EIE throughout, the analyses herein have been prepared to help federal and state agencies decide whether to take no action, rehabilitate, or replace the Cribari Bridge.

The EA/EIE documents the alternatives analysis and environmental impact analysis for the project. While the federal and state NEPA and CEPA requirements are similar for the environmental impact analysis, there are resource areas that are not applicable or subject to review and approval by FHWA under NEPA, but are required for compliance with State of Connecticut regulations. These resources required for state review, not under review or approval by FHWA, are clearly identified throughout the document.

E.1. Overview of the Existing Bridge

The Cribari Bridge is located in the Saugatuck section of Westport, Connecticut upstream of Interstate 95 (I-95) where the bridge carries State Route 136 (Route 136) over the Saugatuck River and connects a residential area on the east to a commercial area on the west (Figure ES-1). The Cribari Bridge was originally built in 1884 and was listed on the National Register of Historic Places (NRHP) on February 12, 1987. However, some aspects of its historic integrity were diminished because of a rehabilitation project that occurred in the 1990s (see Project History for more details on the history of the bridge). The bridge remains individually eligible and is also identified as a contributing element to the NRHP-listed Bridge Street Historic District.

The existing bridge carries an average daily traffic load of 13,100 and is 287 feet long and approximately 26 feet wide overall (19.5 feet curb-to-curb). The bridge carries two travel lanes and a sidewalk on the north side. It has four spans, which consist of two fixed spans to the east and two movable swing spans to the west (Figure ES-2). The spans are defined as the area between the bridge abutments and/or piers. The minimum roadway vertical clearance is posted at 12 feet 7 inches, and the existing vertical clearance under the bridge (i.e., the marine vertical clearance) is less than 7 feet (MHW) (NOAA, 2022a).

The mechanical and electrical equipment used to open and close the bridge is located on top of Piers 1 and 2 and under the bridge deck (below elevation 8.4 feet NAVD88) and is currently subjected to storm damage from flooding. Manually operated pipe rail gates (with a mounted stop sign) are also located at each end of the bridge to control traffic and restrict vehicles from crossing the bridge during openings.

E.2. Project History

A brief history of the Cribari Bridge, prior assessments of the bridge, public controversy, and public outreach are summarized below to provide additional context related to the Purpose and Need and the alternatives assessed as part of this joint EA/EIE.

Brief History of The Bridge, The PAC, and Public Controversy

The Cribari Bridge was originally constructed in 1884 and was originally known as the Saugatuck Swing Bridge. In 2007, it was renamed the William F. Cribari Bridge as a tribute to a Westport police officer and volunteer firefighter of the same name. Since its original construction, the bridge has undergone maintenance activities to keep the bridge in good repair. In the 1990s, CTDOT performed a major rehabilitation project to keep the bridge operational. The live load-bearing truss system of the original bridge was replaced with the current steel girder superstructure.[1] Although portions of the trusses were retained on the bridge as ornamental features, the 1990s rehabilitation project diminished the historic integrity of the bridge.

The Cribari Bridge has continued to be inspected and maintained following the 1990s rehabilitation project. In 2016, a Rehabilitation Study Report (RSR) was prepared for the bridge that identified structural and functional deficiencies – along with seven conceptual alternatives to address the deficiencies (Close Jensen & Miller, 2016). The development of concepts was also informed by a 2015-2016 engineering evaluation that identified structural deficiencies that could not be corrected through maintenance activities. The engineering study was presented in a public forum at the Westport Town Hall in November, 2015 where representatives of CTDOT were available to answer questions and hear from the public. A 2022 bridge inspection report indicated the bridge is in fair condition, with several deficiencies that cannot be addressed through regular maintenance.

With the renewed need to address the bridge's structural and functional deficiencies, concerns for how the historic character of the bridge might be addressed through proposed projects was again raised by members of the community and a Project Advisory Committee (PAC) was then established. Several public meetings were held to address the controversy surrounding potential alterations to the structure and the range of concerns of other stakeholders (see Section 1.5, Public Outreach, for more details on the dates and types of meetings held).

E.3. Purpose & Need

The purpose of the Proposed Action (project) is to provide a resilient structure that:

- Addresses the structural and functional deficiencies of the existing bridge and
- Accommodates safe vehicular, bicycle, pedestrian, and marine traffic.

[1] A truss system is a series of individual members that form a triangular pattern that act in unison to provide the load-bearing capacity for the bridge.

Addresses the structural and functional deficiencies of the existing bridge

Numerous structural and functional deficiencies were identified in the 2016 Cribari Bridge RSR and subsequent inspections by CTDOT (Close Jensen & Miller, 2016). These findings underscore the need for the Proposed Action and are summarized as follows:

Truss System

The existing truss system does not meet the wind load design speed (Close Jensen & Miller, 2016).

Bridge Geometry & Guardrail System

The existing vertical and horizontal clearances, along with the bridge rail system, are all substandard. The Cribari Bridge has a posted vertical clearance that is in excess of 2 feet below the standard vertical clearance for rehabilitated bridges, and in excess of 3 feet below the standard for new bridges, indicated in the CTDOT Highway Design Manual (July 2025 Edition).Click or tap here to enter text. The horizontal clearance of the existing structure (i.e., the curb-to-curb width across the bridge) is 8 ½ feet less than the standard horizontal clearance for this type of bridge (CTDOT, 2023b, Section 3).

The existing guardrail system is not crash-test compliant and is also substandard under current guidelines, specifically the Manual for Assessing Safety Hardware (MASH)[2] crash testing criteria per American Association of State Highway and Transportation Officials (AASHTO) guidance (AASHTO, 2022). Additionally, the guardrail is placed against the truss system so that when the guardrail is impacted it deflects and fails to provide structural protection of the ornamental truss system.

Load Capacity

The Cribari Bridge is currently posted with a vehicular weight limitation of 20 tons which is substandard for bridges located on State routes.[2] Decreasing load capacity will eventually lead to the inability of the bridge to support the load of critical vehicles, such as fire trucks or buses.

[2] In accordance with guidelines set by AASHTO, all bridges must be rated to determine their capability to support the size and weight of various vehicle types.

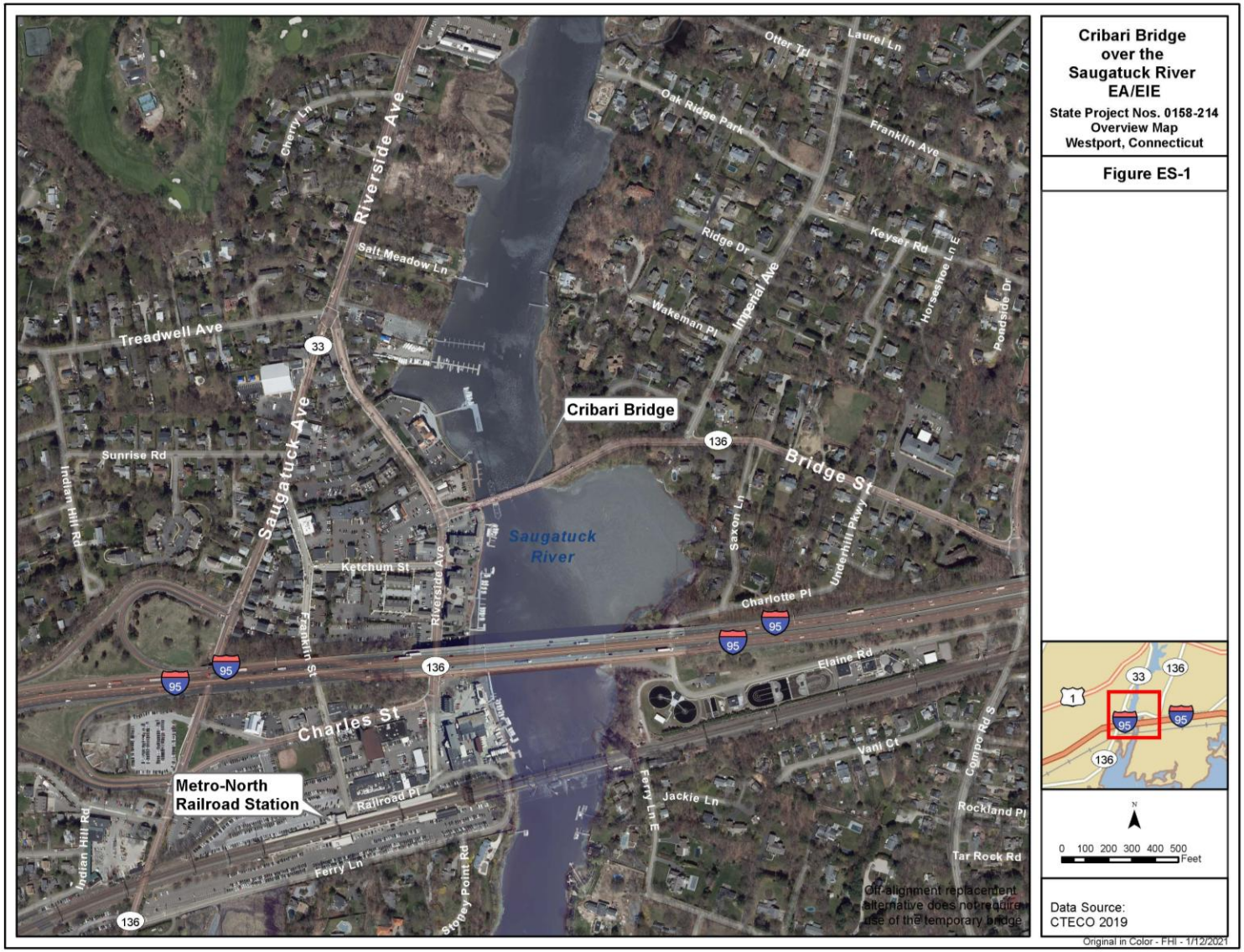


Figure ES- 1: Project Location

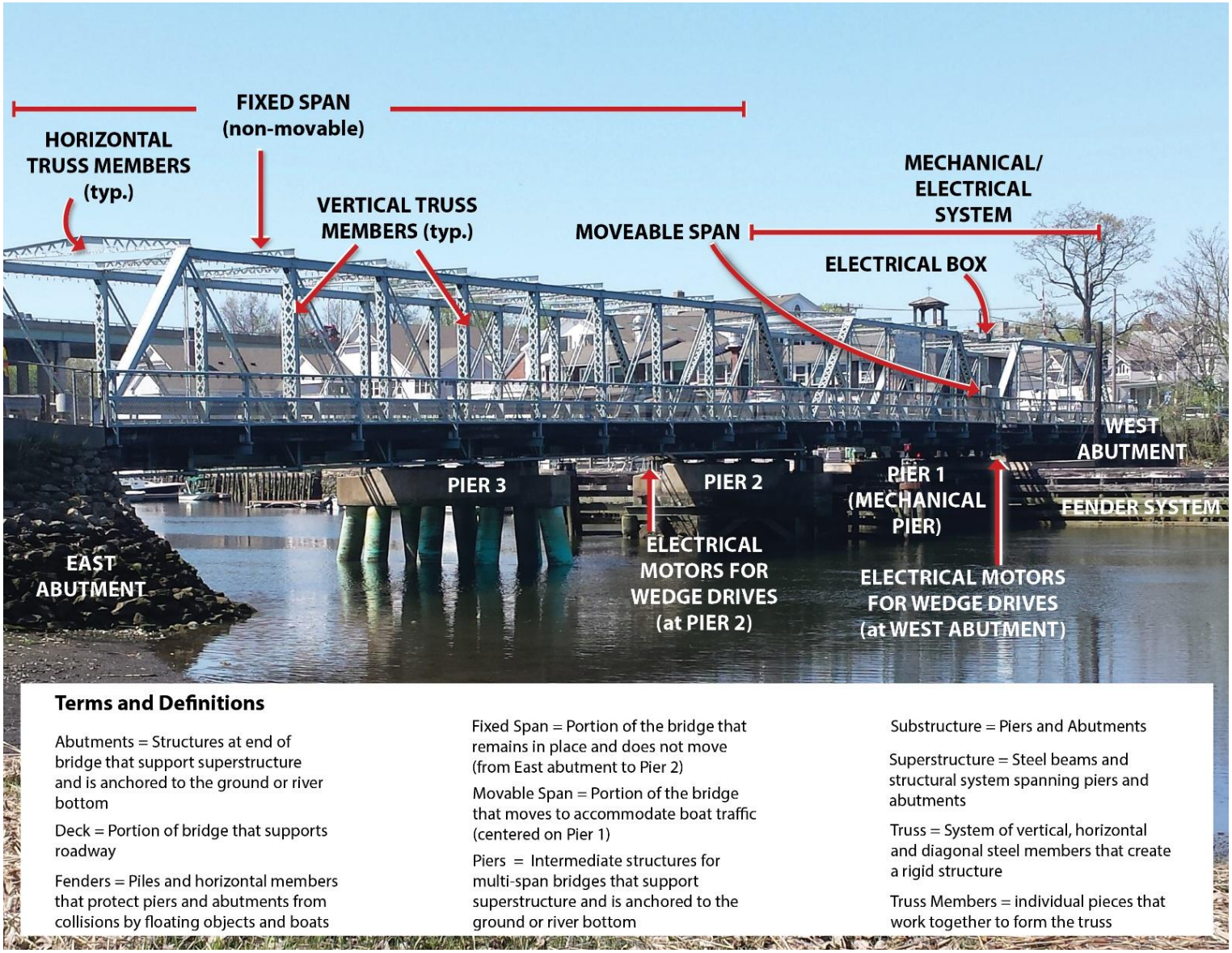


Figure ES- 2: Existing William F. Cribari Memorial Bridge

FHWA Condition Rating

As documented in a series of recent CTDOT Bridge Inspection Reports, Cribari Bridge has fallen below the targeted minimum "fair" condition threshold and shows a trend of bridge deterioration over time.

Functional Adequacy

CTDOT evaluates bridges for functional adequacy, or the relative ease of movement of traffic on the roadway based on the number of vehicles crossing the bridge each day, to determine if the bridge can safely accommodate the traffic demands. Cribari Bridge currently does not meet the minimum geometric criteria for the number of vehicles that use it.

Flooding

The mechanical and electrical equipment used to open and close the existing swing bridge is located under the bridge. Based on current Federal Emergency Management Agency (FEMA) coastal flood elevation data at the bridge, the equipment would be partially submerged and susceptible to damage during a 10-year flood event, compromising bridge functionality for marine navigation. The current FEMA 100-year flood event results in complete inundation of this important operational equipment and also indicates that flooding would overtop the existing approach bridge spans.

During Superstorm Sandy in 2012, the mechanical and electrical equipment of the bridge was completely submerged, damaged, and required substantial repair.

Accommodates safe vehicular, bicycle, pedestrian, and marine traffic

Since its construction in 1884, the minimum requirements for the design of bridges and roadways (lane widths, shoulder widths, guardrail systems, sidewalk widths) have evolved to accommodate the needs of a growing and improving infrastructure system. Limitations of the existing structure include:

Vehicular Travel

The existing width precludes the ability of larger vehicles, such as school buses, from traversing in both directions without the risk of clipping mirrors or bridge trusses. In some cases, the narrow clearances result in "stranded" vehicles unable to traverse the bridge, requiring local Police to assist in traffic control. Additionally, when the bridge is in an open position, there is a lack of a solid roadway barrier-gate system. This has been identified as a substandard condition of the existing bridge that affects public safety and the functionality of the bridge (Close Jensen & Miller, 2016, p. 14).

Bicycle and Pedestrian Travel

The existing sidewalk along the bridge does not meet the minimum width requirements for pedestrians in accordance with the Americans with Disabilities Act (ADA). There is also no roadway shoulder to accommodate a dedicated bicycle lane across the bridge.

The existing conditions also do not meet CTDOT's 2023 Complete Streets Policy and related design criteriaClick or tap here to enter text.. Because Cribari Bridge provides an important crossing over the Saugatuck River for users of the regional East Coast Greenway (ECG) network, the provision of improved bicycle and pedestrian facilities on the bridge would enhance safety and the continuity of the ECG through the project area.

Marine Travel

Cribari Bridge is a movable structure that opens to allow marine vessels to access the upstream reaches of the Saugatuck River. In the past mechanical system failures have resulted in the bridge becoming stuck in the open position, preventing any vehicular traffic from crossing.

Opening and closing the movable span for marine traffic is time consuming and openings are scheduled upon advance request to CTDOT.

E.4. Alternatives Included the Proposed Project

This EA/EIE evaluated five alternatives (see Table ES-1), one involving no build and four "build" alternatives:

- No Build Alternative – continuing the existing operations and maintenance of the current bridge
- Conservation Alternative – implementing limited repairs to the current bridge to address some safety and structural needs;
- Rehabilitation Alternative – rehabilitation of the bridge to address more of the safety and structural needs;
- On-Alignment Replacement Alternative – constructing a new movable bridge on the same general alignment and demolishing the existing bridge; and
- Off-Alignment Replacement Alternative – constructing a new movable bridge in a different alignment and demolishing the existing bridge.

Detailed descriptions of each alternative are found in Chapter 2.

On-Alignment Bridge Replacement Alternative (Preferred Alternative)

The On-Alignment Bridge Replacement Alternative, the Preferred Alternative, proposes replacing the existing bridge with a movable bridge structure on the same alignment. Final design elements and dimensions for the replacement structure have not been developed at this time; however, for the purposes of this EA/EIE, the assumed replacement bridge would be comprised of new abutments to replace the existing abutments in about the same location as the existing, in addition to new in-water piers (including a movable bridge foundation pier). Due to the disparity in length, width, and height between the existing bridge and the replacement bridges, the ornamental trusses would not properly fit on either of the replacement bridges. Therefore, they are not considered for reuse on a new replacement bridge. This alternative proposes the following key elements:

- Providing a minimum roadway vertical clearance that meets current design standards
- Installing a MASH-compliant guardrail system and a solid roadway barrier system and providing bicycle path/shoulder widths of four to five feet and an ADA-compliant sidewalk along the north side
- Increasing the marine vertical clearance for marine vessels to pass under the bridge in the closed position and providing faster bridge openings
- Supporting current bridge load standards
- Lengthening the Bridge Street westbound right-turn storage lane at the intersection of Bridge Street and Riverside Avenue

- Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses

To make the bridge more resilient to flooding and wind, the On-Alignment Bridge Replacement Alternative proposes water-resistant mechanical and electrical equipment located above the projected 100-year flood elevation which is projected to be at elevation 14.64 feet NAVD88 by 2050. This would reduce the potential for the equipment to become inundated and damaged during major storm events. The On-Alignment Bridge Replacement Alternative would also raise the approaches to minimize roadway flooding from the current 100-year coastal flooding event. Bridge replacement would alleviate all wind loading concerns. Construction-related activities of this alternative would include:

- Installing a temporary bridge
- Removing and replacing the existing bridge and piers, and replacing abutments and wingwalls
- Replacing the existing bridge's fixed superstructure, piers and fender system, which may require large cranes and barges and/or temporary trestles
- Constructing of a cofferdam and marine enclosures, and the construction of a movable span of the new bridge in place with cranes from each approach (or constructing it off site and floating into place)
- Reconstructing the subgrade, base, and surface of the approach roadways
- Short-term partial or full closure of the navigation channel

Construction of the new bridge would take about three years, with pedestrian and vehicular traffic maintained on the temporary bridge. There would be restrictions on marine travel during construction. The service life of the On-Alignment Bridge Replacement Alternative (Preferred Alternative) would be 75 to 100 years.

Table ES-1: Summary of Design Changes for the five alternatives evaluated in this EA/EIE

	No Build	Conservation	Rehabilitation	Replacement (On-Alignment)	Replacement (Off-Alignment)
Work Involved	Minor repairs performed, as required, by DOT Maintenance crews Represents existing conditions	Restore bridge to its 1993 condition Repair of damaged elements Structural repair of Piers 2 and 3	Repair/widening of trusses Structural repair of Piers 2 and 3 MASH-compliant guardrail Water-resistant mechanical equipment Roadway barrier for bridge openings	Replacement of the existing bridge with a new structure on a similar alignment	Replacement of the existing bridge with a new structure on an alignment located north from the existing
Design Considerations					
Roadway Vertical Clearance	13’-10”	13’-10”	13’-11” to 14’-3”	16’-3” (min.) **	16’-3” (min.) **
Marine Vertical Clearance	Less than 7’-0”	Less than 7’-0”	Less than 7’-0”	Increased from existing **	Increased from existing **
Lane Width	9’-9”	9’-9”	9’-9”	10’ to 12’ **	10’ to 12’ **
Bike Path/Shoulder Width	0’	0’	0’	4’ to 5’ **	4’ to 5’ **
Intersection Improvements	No change from existing	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.
Sidewalks	No change from existing	≥ 5’ sidewalk located along north side	≥ 5’ sidewalk located along north side	5’-6’ wide sidewalk along north side	5’6’ wide sidewalk along north side
Bridge Openings	No change from existing	No change from existing	No change from existing	Reduced/faster bridge openings	Reduced/faster bridge openings
Property Acquisition, Displacement, and Relocation	No impacts	Temporary easements for temporary bridge*	Temporary easements for temporary bridge*	Temporary easements for temporary bridge*	Permanent acquisitions and temporary easements anticipated*
Construction Disruption to Property	Off-peak closures of bridge to perform maintenance	Temporary impacts to north parking lot Temporary relocation to driveway	Temporary impacts to north parking lot Temporary relocation to driveway	Temporary impacts to north parking lot Temporary relocation to driveway	Permanent partial take of parking lot Permanent relocation of driveway
Construction Duration	As needed for maintenance	2-3 years	2-3 years	3 years	3 years
Anticipated Structure Service Life	10-15 years	25-40 years	25-40 years	75-100 years	75-100 years
Estimated Cost **	Maintenance costs as required	$49,000,000 - $54,000,000	$50,000,000 - $55,000,000	$78,000,000 - $86,000,000	$66,000,000 - $73,000,000

*Exact values would be vetted out at design level if chosen.

**Estimated costs are derived from the Rehabilitation Study Report (RSR) and adjusted for inflation.

E.5. Project Impacts

As part of this EA/EIE, the environmental resources/factors evaluated and potentially impacted during (and following) construction of the Proposed Action are listed in Table ES-2 and Table ES-3. CTDOT/FHWA would complete the commitments as shown in Table ES-4 during design and construction of the Project. Commitments are dependent on the alternative selected for the project.

E.6. Intergovernmental Coordination

Interagency Meetings were held on December 13, 2017, to receive input on the Purpose and Need Statement for the project and November 25, 2019, to receive input on the Alternatives.
Copies of the correspondence with these agencies can be found in Appendix E. Coordination with the Town of Westport, including its Harbor Master and Shellfish Commission, the Western Connecticut Council of Governments (WestCOG), and regulatory agencies, will continue throughout the design process as appropriate.

Permits and approvals anticipated for the project include a USCG Bridge Permit and USACE Section 408 Authorization and Section 404 Permit, as well as State issued Section 401 Water Quality Certification, Coastal Permit/Consistency Review, Flood Management Certification, and other permits discussed in Section 1.4.

E.7. Public Outreach

As noted in Section Project History, public outreach for the Cribari Bridge began in November 2015 with a public meeting to kick-off the Rehabilitation Study (State Project #158-212) and continued into the EA/EIE process. A Notice of Public Scoping was published in the Connecticut CEQ *Environmental Monitor* on May 17, 2016, June 7, 2016, and June 15, 2016. A Public Scoping Meeting was held on June 15, 2016. A Post-Scoping Notice was published in the *Environmental Monitor* on August 4, 2020, and August 18, 2020.

A PAC was formed to provide input to CTDOT and FHWA during the alternatives development phase of the project, and six PAC meetings were held in 2018 - 2025 to review and discuss the project alternatives. Meetings with historic stakeholders have been held with the most recent on December 18, 2025. There have also been other public informational meetings, presentations before the regional planning agency, and meetings with various Town of Westport committees, commissions, and boards. See the CTDOT project website for more details: https://portal.ct.gov/Cribari-Bridge

In accordance with 23 CFR 771.111(h), a public hearing will be held on Thursday, March 19, 2026 at 6:00 pm in the Westport Town Hall at 110 Myrtle Avenue in Westport, CT. Open House begins at 6:00 p.m. Formal Presentation begins at 7:00 p.m. during the 60-day public document review period. The date and time of the public hearing will be advertised in the Connecticut Environmental Monitor and in the Westport News, as well as on CTDOT's project website.

Table ES-2: Tabular summary of post-construction impacts by alternative

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Property Acquisition, Displacement, and Relocation	*None*	*No permanent impacts*	*No permanent impacts*	*No permanent impacts*	**Negative effect: Fewer than 10 permanent partial property takings, reduced parking area, and removal or relocation of private dock**
Consistency with State, Regional, and Local Plans	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other local plans that focus on maintaining the function and structure of the bridge.**	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other local plans that focus on maintaining the function and structure of the bridge.**	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other state, regional, and local plans**	**Negative effect: Not consistent with local plan for conservation and development that aims to maintain the existing bridge.** **Positive effect: Consistent with state and regional plans**	**Negative effect: Not consistent with local plan for conservation and development that aims to maintain the existing bridge.** **Positive effect: Consistent with state and regional plans**
Socioeconomics	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance**	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance.**	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance.**	**Positive effect: Improved traffic movement to land- and water-based businesses and reduced travel delays.**	**Negative effect: Permanent impact on two businesses due to permanent relocation of driveway and reduced parking.** **Positive effect: Improved traffic movement to land- and water-based businesses and reduced travel delays.**
Traffic and Transportation	**Negative effect: Transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements, low level of service at Bridge Street and Riverside Ave intersection during morning peak traffic) would remain or worsen in the event of further load restrictions.**	**Negative effect: Some transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements) would remain.** **Positive effect: Improvements to traffic operations at Bridge Street intersections and load restrictions. Slight increase in vertical clearance height due to repairs.**	**Negative effect: Some transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements) would remain.** **Positive effect: Improvements to traffic operations at Bridge Street intersections, traffic delays, and load restrictions. Increased vertical clearance height. Additional improvements to safety from widening the bridge trusses and installing a MASH-compliant guardrail and new solid barrier system for bridge openings.**	**Positive effect: Improvements to maneuverability for all vehicles, mobility and safer passage for cyclists, pedestrian safety, and ADA compliance. Additional reductions to the potential for low-speed crashes and full operational cycle of the bridge (from 20 minutes to 8 minutes).**	**Positive effect: Improvements to maneuverability for all vehicles, mobility and safer passage for cyclists, pedestrian safety, and ADA compliance. Additional reductions to the potential for low-speed crashes and full operational cycle of the bridge (from 20 minutes to 8 minutes).**
Public Safety and Security	*None*	*None*	*None*	**Positive effect: Enhanced mobility for emergency responders and likely mitigation of multi-vehicle sideswipe**	**Positive effect: Enhanced mobility for emergency responders and likely mitigation of multi-vehicle sideswipe crashes and single-vehicle fixed object**

Affected Environment	Alternative				
	No Build	Conservation	Rehabilitation	On-Alignment Replacement (Preferred)	Off-Alignment Replacement
				crashes and single-vehicle fixed object crashes due to wider travel lanes and shoulders. Improvements to pedestrian mobility through ADA-compliant sidewalk.	**crashes due to wider travel lanes and shoulders. Improvements to pedestrian mobility through ADA-compliant sidewalk.**
Visual and Aesthetics	*None*	*Visual impacts would be neutral.*	*Visual impacts would be neutral.*	*Visual impacts would be neutral.*	*Visual impacts would be neutral.*
Cultural Resources	*No Adverse Effect under Section 106*	*No Adverse Effect under Section 106*	*No Adverse Effect under Section 106*	**Negative effect: Adverse Effect under Section 106 resulting from removing the existing historic bridge.**	**Negative effect: Adverse Effect under Section 106 resulting from removing the existing historic bridge.**
Section 4(f)	*No use under Section 4(f)*	*No use under Section 4(f)*	*No use under Section 4(f)*	**Negative effect: Use under Section 4(f)**	**Negative effect: Use under Section 4(f)**
Water Resources and Water Quality	*None*	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from the lengthening of the right turn lane from Bridge Street.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from the lengthening of the right turn lane from Bridge Street.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from a widened roadway and sidewalk.** **Positive effect: Improvements to water quality from new stormwater pretreatment and drainage collection systems.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from a widened roadway and sidewalk.** **Positive effect: Improvements to water quality from new stormwater pretreatment and drainage collection systems.**
Navigable Waters	*None*	*None*	**Negative effect: Reduced channel width by approximately 2 feet**	**Positive effect: Vertical clearance of the bridge in the closed position would be increased from existing ***	**Positive effect: Vertical clearance of the bridge in the closed position would be increased from existing ***
Wetlands	*None*	**Negative effect: Structural repairs to Piers 2 and 3 would require in-water work that has the potential to permanently affect wetlands with the installation of new support piles.**	**Negative effect: Structural repairs to Piers 2 and 3 would include temporary in-water work, as well as expansion of the fender system that has the potential to permanently affect wetlands.**	**Negative effect: Piles to support new fender system and a larger footprint for the new mechanical pier that would both result in a permanent loss of river bottom habitat. Additionally, widening the eastern would cause impacts to tidal wetlands to the north and south of the approach.** **Positive effect: Existing Pier 3 would be removed, which would offset some, but not all, of the impact of the new piers and piles.**	**Negative effect: Several new piers would result in a permanent loss of river bottom habitat greater than any of the other alternatives, and impact from the footprint of support piles would result in additional loss of bottom habitat.** **Positive effect: All piers of the existing bridge would be removed, and the river bottom would be allowed to restore naturally, offsetting some of the impact of the new piers and piles.**
Floodplains	*None*	*None*	*None*	**Positive effect: Larger hydraulic opening compared to the existing bridge. New superstructure, mechanical equipment, and upper portions of the substructure would be above the current FEMA base flood elevation (BFE).**	**Positive effect: Larger hydraulic opening compared to the existing bridge. New superstructure, mechanical equipment, and upper portions of the substructure would be above the current FEMA BFE.**

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Coastal Resources	*None*	*Improvements would be consistent with CT Coastal Management Act (CCMA).*	*Improvements would be consistent with CT Coastal Management Act (CCMA).*	**Negative effect: Not fully consistent with CCMA policy, as it includes permanent and temporary encroachments on coastal resources, although they would not disrupt the functions and values of those resources.**	**Negative effect: Not fully consistent with CCMA policy, as it includes permanent and temporary encroachments on coastal resources, although they would not disrupt the functions and values of those resources.**
Biological Environment Biological Environment – Flora and Fauna	*None*	*None currently anticipated*	*None currently anticipated*	**Negative effect: Permanent impacts to the river bottom benthic habitat and mudflat habitat due to newly located and larger piers.**	**Negative effect: Permanent impacts to the river bottom benthic habitat and mudflat habitat due to newly located and larger piers**
Biological Environment – Threatened and Endangered Species	*None*	*None currently anticipated*	*None currently anticipated*	*None currently anticipated*	*None currently anticipated*
State of Connecticut only CEPA Specific Impacts					
Climate Change and Sea Level Rise	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** *No substantial permanent changes to greenhouse gas (GHG) emissions anticipated.*	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations**.	**Positive effect: More resilient to current and future storm events and tidal flooding. Increased wind loading concerns would also be alleviated.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**	**Positive effect: More resilient to current and future storm events and tidal flooding. Increased wind loading concerns would also be alleviated.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**

*Exact values would be vetted out at design level if chosen.

Table ES-3: Tabular summary of temporary construction impacts by alternative

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Property Acquisition, Displacement, and Relocation	None	Temporary property acquisitions, displacements, or relocations.	Temporary property acquisitions, displacements, or relocations.	Temporary property acquisitions, displacements, or relocations.	None
Consistency with State, Regional, and Local Plans	None	None	None	None	None
Socioeconomics	None	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to operation of water-based businesses.
Traffic and Transportation	None	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.
Public Safety and Security	None	None	None	None	None
Visual and Aesthetics	None	Temporary change to the visual landscape.	Temporary change to the visual landscape.	Temporary change to the visual landscape.	Temporary change to the visual landscape.
Cultural Resources and Section 4(f)	None	Temporary use of a portion of 535 Riverside Avenue	Temporary use of a portion of 535 Riverside Avenue.	Temporary use of a portion of 535 Riverside Avenue.	Temporary use of a portion of 535 Riverside Avenue.
Water Resources and Water Quality	None	Additional impervious surface area and subsequent runoff associated with temporary bridge.	Additional impervious surface area and subsequent runoff associated with temporary bridge.	Additional impervious surface area and subsequent runoff associated with temporary bridge.	None
Navigable Waters	None	Temporary vertical clearance restriction, partial closures or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Temporary vertical clearance restriction, partial closures or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Temporary vertical clearance restriction, partial or full closures, or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Would not require the construction of a temporary bridge; Short-term restrictions related to vertical clearance and short-term partial or full closure of the navigation channel.
Wetlands	None	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from more extensive marine enclosure containment and longer use of barges to facilitate construction. No permanent adverse impact is anticipated.
Floodplains	None	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.
Coastal Resources	None	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Biological Environment – Flora and Fauna	None	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat habitat and subtidal estuarine waters.	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat habitat and subtidal estuarine waters.	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat habitat and subtidal estuarine waters.	Potential temporary impact to upland, wetland, and tidal vegetation.
Biological Environment – Threatened and Endangered Species	None	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species.
State of Connecticut only CEPA Specific Impacts					
Climate Change and Sea Level Rise	None	Temporary Increase in generation of GHG emissions	Temporary Increase in generation of GHG emissions	Temporary increase in generation of GHG emissions	Temporary increase in generation of GHG emissions

Table ES-4: Tabular summary of environmental commitments

Resources	Commitments	Reference Section
Air Quality	• Avoid or limit Temporary air quality emissions during construction through BMPs such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.	1.3.1
Hazardous Waste and Materials	• Conduct survey to determine the presence of lead-based paint or other potential hazardous materials, and implement proper measures for safe handling and disposal of such materials in accordance with CTDOT best management practices, standards, and specifications. • Comply with federal and state standards for hazardous materials handling. • Perform within the project area and/or adjacent ROW an additional study for any sites with known contamination issues in the vicinity of the project. • Develop a testing plan as the design progresses to assess soil and groundwater in any high-risk areas within which intrusive construction activities are proposed. Put remediation measures in place to mitigate potential impacts if contaminated soils or groundwater is confirmed by the testing. If needed, obtain registration under CTDEEP's General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer), and conduct soil management in accordance with the General Permit.	1.3.4
Noise and Vibration	• Comply with Section 1.10.05 "Construction Noise Pollution" of CTDOT's Standard Specifications for Roads, Bridges and Incidental Construction Form 819.	1.3.10
Property Acquisition, Displacement, and Relocation	• Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Conduct all property acquisitions, displacements and relocations in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Uniform Regulations of 2005.	3.1
Consistency with State, Regional, and Local Plans	• Work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource.	3.2
Socioeconomics	• Proactively communicate short-term restrictions of the navigation channel with the USCG and Westport Harbor Master. • Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Conduct all property acquisitions, displacements and relocations in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Uniform Regulations of 2005.	3.3
Traffic and Transportation	• Maintain traffic operations and proactively communicate off-peak lane closures. • Use maintenance and protection of traffic (MPT) measures and signage to ensure the safety of all modes of travel through the project site.	3.4
Public Safety and Security	• Use maintenance and protection of traffic (MPT) measures and signage to ensure the safety of all modes of travel through the project site. • Proactively communicate short-term restrictions of the navigation channel with the USCG and Westport Harbor Master and to mariners through signage, public notices or other means.	3.5
Visual and Aesthetics	• Implement avoidance, minimization, and mitigation measures as specified in the future MOA between FHWA, CTSHPO and CTDOT. • Work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource.	3.6
Cultural Resources	• Implement avoidance, minimization, and mitigation measures as specified in the future MOA between FHWA, CTSHPO and CTDOT. • Determine the need for temporary easements in consultation with potentially affected Riverside Avenue property owners (as needed). • Work with potentially affected Riverside Avenue property owners to determine fair compensation for any permanent loss (as needed). • Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses.	3.7
Section 4(f)	• Prior to approval of the Proposed Action that involves a use under Section 4(f), the FHWA must determine that there is no feasible and prudent avoidance alternative to the use of that property (as part of the Programmatic Section 4(f) Evaluation) and that the proposed project includes all feasible planning to minimize harm to the property resulting from its use. • Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses.	3.8
Water Resources and Water Quality	• Implement post-construction stormwater management provisions in accordance with the Construction General Permit, the Connecticut Stormwater Quality Manual, and the post-construction stormwater management requirements of the CTDOT Municipal Separate Storm Sewer System (MS4) General Permit and associated Department policies to the maximum extent practicable to mitigate any potential increases to current impairments. • Incorporate the requirements of the Construction Stormwater General Permit due to siltation/sedimentation impairment. Currently CTDOT does not have an overall watershed plan as part of their MS4 program, though they are progressing with the U.S. Geological Survey (USGS) to model their overall system to identify where specific retrofit projects are most effective. However, CTDOT does have requirements for individual construction projects to use Best Management Practices to reduce pollutants of concern which would be incorporated in the Project.	3.9

	• Minimize Potential construction-phase stormwater impacts through the implementation of a Stormwater Pollution Control Plan in accordance with the Construction General Permit, as well as adherence to Form 819, Section 1.10 Environmental Compliance, Required Best Management Practices (BMPs) and the Connecticut Guidelines for Soil Erosion and Sediment Control (as amended). • Implement soil erosion and sediment controls and other BMPs under the direction of CTDOT personnel. • Identify specific stormwater management and monitoring practices during Project design, including practices to mitigate sedimentation or siltation to the Saugatuck River. • Investigate temporary storm drainage collection systems, and stormwater pretreatment measures to improve water quality during design. • Plan preparers and monitors must possess the qualifications required by the permit and applicable local requirements.	
Navigable Waters	• Implement proper construction staging to minimize impacts on navigable waters. • Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Work with property owners to determine fair compensation for any permanent loss (as needed). • Proactively coordinate short-term restrictions of the navigation channel with the USCG, USACE, CTDEEP, the Town of Westport (i.e., Harbormaster, Shellfish Commission) and other stakeholders.	3.10
Wetlands	• Undertake a detailed assessment of impacts during the design and permitting phase of the project, including an evaluation of avoidance and minimization techniques and potential mitigation measures. • Evaluate best management practices and measures to avoid and minimize impacts to wetland resources in consultation with federal, state, and local agencies including measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.	3.11
Floodplains	• Assess channels and embankments during design and address instabilities identified (or anecdotally provided) within the channel or along the embankments as part of final design. • Conduct a detailed assessment of potential impacts and identification of any necessary mitigation measures during the permitting process.	3.12
Coastal Resources	• Avoid and minimize impacts on coastal resources to the extent practicable through coordination with appropriate regulatory agencies and stakeholders, including CTDEEP.	3.13

Biological Environment	• Confirm NDDB mapping at six-month intervals during design. If any state listed species are documented within the Project Site prior to construction of the Project, consult CTDEEP and reinitiate NDDB process.
	• Continue to monitor NDDB and IPaC databases for new/updated listings of species that may occur within the Project Area and coordinate with CTDEEP and USFWS as required to address applicable state and federal requirements as design and construction progress.
	• Design and install erosion and sediment control measures to minimize runoff to water and wetland resource areas.
	• Incorporate BMPs identified in consultation with applicable regulatory authorities to minimize impacts from turbidity and noise to fish and other aquatic life.
	• Use noise attenuating tools, such as soft starts required by USACE and NMFS PRD, to avoid reaching noise levels that would cause injury or behavioral disturbance to sturgeon and sea turtles.
	• Conduct Essential Fish Habitat coordination and Endangered Species Act (ESA) Section 7 consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries as project design progresses. If in-water work is required during construction, installation of temporary protections may be required around resource areas.
	• Follow appropriate construction sequencing and water handling methods to reduce potential impacts associated with construction activities, in accordance with the Stormwater Pollution Prevention Plan for the project.
	• Time of year restrictions may be required as part of the permitting process for activities during construction to avoid and minimize impacts to fisheries.
	• Observe the following during the installation and removal of the temporary bridge and other in-water work to mitigate impacts to fisheries in compliance with CTDEEP Fisheries Division:
	  ○ No unconfined in-water work from April 1 to June 30, inclusive.
	  ○ No loud construction-related activities such as jack hammering or hoe ramming after sunset or before sunrise from April 1 to June 30, inclusive.
	  ○ Artificial lighting over the water is limited to navigation lights and any lighting typically required to operate the bridge during the spring migration period from April 1 to June 30, inclusive.
	• Undertake a detailed assessment of impacts and additional coordination with the applicable regulatory agencies during the design and permitting phase of the project, including an evaluation of avoidance and minimization techniques, and identification of potential mitigation measures.
		3.14

CEPA-Specific Commitments		
Climate Change and Sea Level Rise	• Avoid or limit Temporary air quality emissions during construction through BMPs such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.	3.15.1

1 Purpose & Need

The Federal Highway Administration (FHWA) and the Connecticut Department of Transportation (CTDOT) have prepared a Joint Environmental Assessment/Environmental Impact Evaluation (EA/EIE) and Programmatic 4(f) Evaluation for the rehabilitation/replacement of the William F. Cribari Memorial Bridge (Bridge No. 01349) (Cribari Bridge). This document, has been prepared as a joint EA/EIE to meet the requirements of an Environmental Assessment (EA) for the National Environmental Policy Act (NEPA) under the oversight and approval of FHWA and also for the Environmental Impact Evaluation (EIE) for the Connecticut Environmental Policy Act (CEPA) under the oversight and approval of the State of Connecticut Office of Policy and Management (OPM). Referred to as the EA/EIE throughout, the analyses herein have been prepared to help federal and state agencies decide whether to take no action, rehabilitate, or replace the Cribari Bridge.

The EA/EIE documents the alternatives analysis and environmental impact analysis for the project. While the federal and state NEPA and CEPA requirements are similar for the environmental impact analysis, there are resource areas that are not applicable or subject to review and approval by FHWA under NEPA, but are required for compliance with State of Connecticut regulations. These resources required for state review, not under review or approval by FHWA, are clearly identified throughout the document.

1.1 Overview of the Existing Bridge

The William F. Cribari Memorial Bridge (Bridge No. 01349) (Cribari Bridge) carries State Route 136 over the Saugatuck River in Westport, Connecticut. The bridge connects a residential area on the east to a commercial area on the west (see Figure 1-1), and it carries an average daily traffic load of approximately 13,100 vehicles. The existing bridge is 287 feet long, approximately 26 feet wide overall (19.5 feet curb-to-curb) and carries two travel lanes and a sidewalk on the north side. It has four spans that consist of two fixed spans to the east and two movable swing spans to the west (see Figure 1-2). The minimum roadway vertical clearance is posted at 12 feet 7 inches, and the existing vertical clearance under the bridge (i.e., the marine vertical clearance) is 7 feet in the closed position in navigational charts for the area (NOAA, 2022a). The bridge currently has several structural and functional deficiencies, which were identified and documented in a 2016 Bridge Rehabilitation Study Report (RSR) of the Cribari Bridge (Close Jensen & Miller, 2016) (see Appendix H) and are described in greater detail in the following sections.

The mechanical and electrical equipment used to open and close the bridge for marine traffic is located on top of Piers 1 and 2 under the bridge deck (below elevation 8.4 feet (ft) NADV88) and is currently subjected to damage from coastal flooding events. Manually-operated pipe rail gates with mounted stop signs are used at each end of the bridge to control traffic and restrict vehicles from using the bridge during openings. Cribari Bridge, originally built in 1884, was listed on the National Register of Historic Places (NRHP) on February 12, 1987 (National Park Service, 1987), however, some aspects of its historic integrity were diminished because of a rehabilitation project that occurred in the 1990s. It is also a contributing element to the NRHP-listed Bridge Street Historic District.

1.2 Purpose & Need

1.2.1 Purpose

The purpose of the Proposed Action (project) is to provide a resilient structure that:

- Addresses the structural and functional deficiencies of the existing bridge, and
- Accommodates safe vehicular, bicycle, pedestrian, and marine traffic.

1.2.2 Need

While the purpose statement describes the desired outcome of the Proposed Action, the needs describe the underperforming aspects of the existing structure and surrounding transportation system. The needs of the proposed project as they relate to each element of the purpose statement are as follows:

Addresses the structural and functional deficiencies of the existing bridge

Numerous structural and functional deficiencies were identified in the 2016 Cribari Bridge RSR and subsequent inspections by CTDOT (Close Jensen & Miller, 2016). The findings underscore the need for the Proposed Action and are summarized as follows:

Truss System

The existing truss system, which is no longer structurally supporting the bridge, was retained during a 1990s rehabilitation project on Cribari Bridge for ornamental purposes. Over time, the trusses have sustained severe and recurring vehicular impact damage along the entire length of the structure. The ability of the existing trusses to withstand wind loads is substandard. During the RSR evaluation of the project, it was determined that the trusses did not meet the wind load design speed of 125 miles per hour (mph) (Close Jensen & Miller, 2016). While repairs have recently been performed, these repairs do not bring the trusses to current standards for wind load.

Bridge Geometry & Guardrail System

The existing vertical and horizontal clearances, along with the bridge guardrail system, are also substandard. The Cribari Bridge has a posted vertical clearance that is in excess of 2 feet below the standard. The existing clearance is 12 feet 7 inches because of an electrical box that encroaches into the travelway at an elevation of 12 feet 10 inches. All other horizontal truss members over the roadway are set at a minimum height of 13 feet and 10 inches. The standard vertical clearance according to the CTDOT Highway Design Manual (July 2025 Edition) is 14 feet 3 inches for rehabilitated bridges, and 16 feet 3 inches for new bridges (CTDOT, 2025)(CTDOT, 2023b, Section 5). The horizontal clearance of the existing structure (i.e., the curb-to-curb width across the bridge) is 19 feet 6 inches, while the standard horizontal clearance for this type of bridge is 28 feet (CTDOT, 2025)(CTDOT, 2023b, Section 3).

When new bridge guardrail systems are installed, they are tested for their ability to withstand crashes.[3] However, this was not a safety requirement when the existing bridge guardrail system was constructed. Consequently, the existing guardrail system is not crash-test compliant and is also substandard under current guidelines, specifically the Manual for Assessing Safety Hardware (MASH)-crash testing criteria per American Association of State Highway and Transportation Officials (AASHTO) guidance (AASHTO, 2022). Additionally, the guardrail is placed against the truss system so that when the guardrail is impacted it deflects and fails to protect the truss system. The guardrail system cannot withstand the full force of collisions, resulting in damage to the adjacent trusses. As described above, even though the trusses are no longer structurally supporting the bridge, maintaining their structural integrity is important for the safety of the traveling public.

[3] The Manual for Assessing Safety Hardware (MASH) is a modern set of standard testing procedures for a range of roadway safety equipment including guardrails. The guidelines and conditions are produced by AASHTO. The guardrails are tested in a special facility where they are pre-installed and then a car or truck veers into them at high speed in a controlled environment.

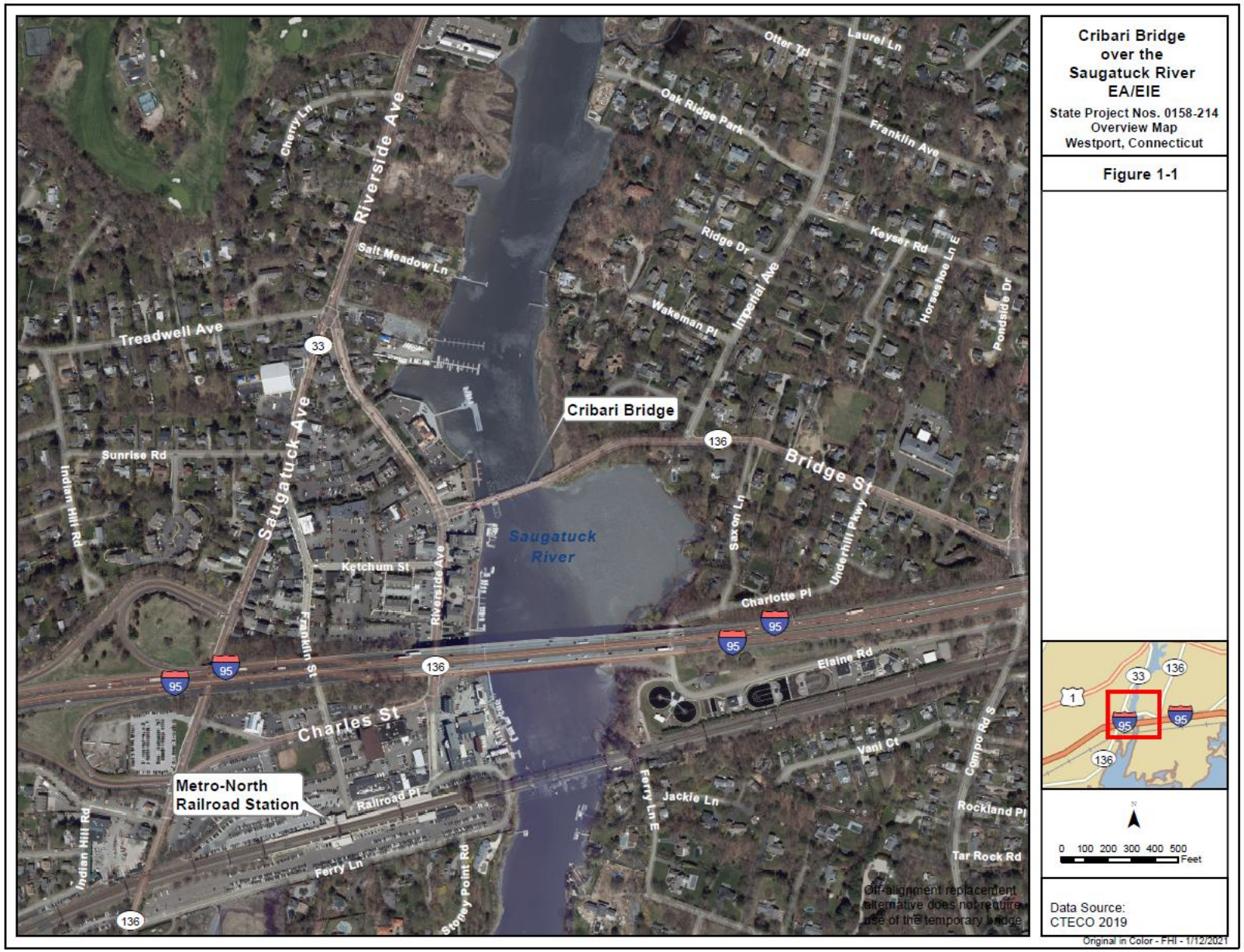


Figure 1-1: Location of the existing Cribari Bridge in Westport, CT – site of the Proposed Action (or project)

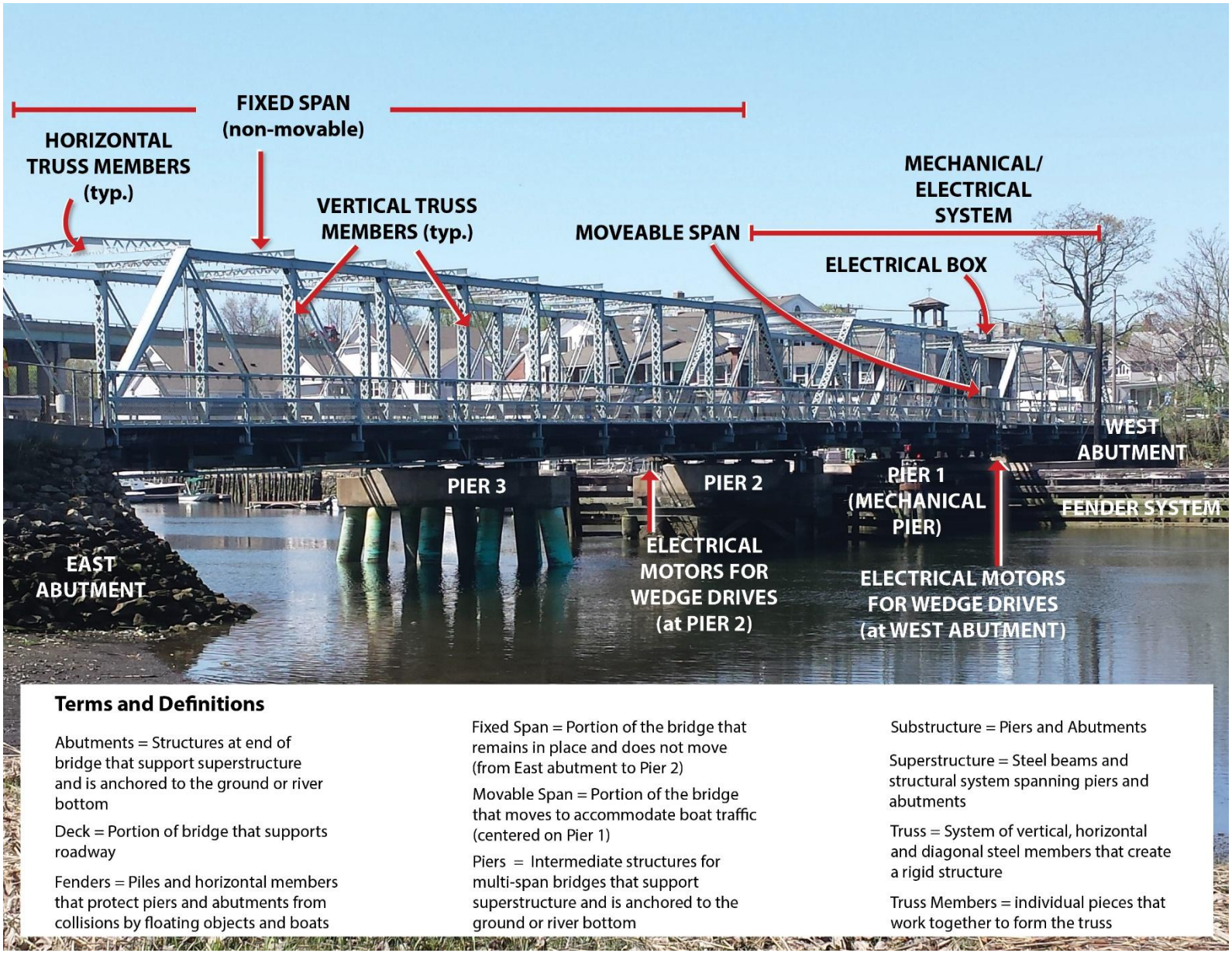


Figure 1-2: Image of the existing William F. Cribari Memorial Bridge (Cribari Bridge) and the locations of key bridge elements

Load Capacity

For safety reasons, Cribari Bridge is currently posted with a vehicular weight limitation of 20 tons due to its deteriorated condition that affects the bridge's structural or load capacity. This weight limitation is substandard for bridges located on State routes.[4] Without action to replace or strengthen the damaged and/or deteriorated structural elements (including the Pier 2 piles and cross bracing) the capacity of the existing bridge to support the weight of larger vehicles will continue to diminish, resulting in additional load restrictions. Decreasing load capacity will eventually lead to the inability of the bridge to support the load of critical vehicles, such as fire trucks or buses.

FHWA Condition Rating

In addition to AASHTO standards, CTDOT strives to have all state bridges meet the criteria of the FHWA's Specifications for National Bridge Inventory (SNBI) (Federal Highway Administration, 2022). This positions State bridges to be eligible for federal funding without design exceptions. The FHWA sets parameters to ensure that a structure sustains a rating of "fair" condition (or better) and to highlight any major elements that fall below this threshold. Per the latest CTDOT Bridge Inspection Reports (dated September 27, 2018, September 16, 2020, and September 15, 2022. See Appendix J), Cribari Bridge has fallen below the noted "fair" condition threshold and shows a trend of bridge deterioration over time.

Functional Adequacy

CTDOT also evaluates bridges for functional adequacy. This is determined in accordance with guidelines provided in the FHWA's SNBI (Federal Highway Administration, 2022). The bridge is evaluated in relation to the ease of movement of traffic on the roadway. It considers factors such as available travel lanes and shoulder width, and vertical clearance over the roadway. The minimum requirements for these factors are based on the number of vehicles crossing the bridge each day to determine if the bridge can safely accommodate the traffic demands. Higher traffic numbers require wider roadways as a safety factor and to ensure the comfort of drivers. Per the FHWA Bridge Coding Guide, Cribari Bridge currently does not meet the minimum criteria for the number of vehicles that use it (Close Jensen & Miller, 2016a, p. 1). Over the lifetime of the bridge, the introduction of motor vehicles and growth in the surrounding population have resulted in a greater demand for the use of the bridge. As a result, the guidelines that were acceptable for structures when the bridge was originally constructed in 1884 are no longer sufficient for the number and type of vehicles currently using the bridge daily.

Flooding

The mechanical and electrical equipment used to open and close the existing swing bridge is located under the bridge, between elevations 6.0 and 8.4 feet NAVD88. The current Federal Emergency Management Agency (FEMA) ten-year coastal flood elevation at the bridge is approximately 8.1 feet (NAVD88),[5] which means the equipment would be partially submerged and susceptible to damage during an event of this magnitude, compromising bridge functionality for marine navigation. The current FEMA 100-year flood event, 13 feet NAVD88, results in complete inundation of this important operational equipment and would overtop the approach bridge spans that are located at approximately 11.9 feet NAVD88.

[4] In accordance with guidelines set by AASHTO, all bridges must be rated to determine their capability to support the size and weight of various vehicle types.

[5] Federal Emergency Management Agency (FEMA). *Flood Insurance Study, Volume 1 of 6. Flood Insurance Study Number 09001CV001C, Fairfield County, Connecticut*, p. 108. Revised October 16, 2013.

The existing east and west approach roadways have low drainage points just behind the abutments. The current NOAA predicted tidal event elevations indicate these areas would flood just prior to the current FEMA 100-year event elevations with 1 foot to 1.5 feet of localized water depth at the current 100-year elevation.
During Superstorm Sandy in 2012, the mechanical and electrical equipment of the bridge was completely submerged, damaged, and required substantial repair. Aside from the added costs incurred to replace the mechanical and electrical equipment, vehicular and marine traffic was restricted from passing as work was performed on the bridge. The mechanical and electrical equipment has not been relocated since the 2012 event and remains susceptible to damage from any future storm events of a similar magnitude.

Accommodates safe vehicular, bicycle, pedestrian, and marine traffic

Since its construction in 1884, the minimum requirements for the design of bridges and roadways (lane widths, shoulder widths, guardrail systems, sidewalk widths) have evolved to accommodate the needs of a growing and improving infrastructure system.

Vehicular Travel

Sufficient travel lane and shoulder width are necessary to ensure that vehicles can safely maneuver across the structure in both directions. The existing width precludes the ability of larger vehicles, such as school buses, from traversing in both directions without the risk of clipping mirrors or bridge trusses. When the bridge was originally constructed, the trusses provided structural support. Today, they no longer provide this structural support; however, maintaining their structural integrity is important for the safety of the traveling public. As noted above, the existing guardrail system abuts against the trusses. Therefore, any collisions or impacts to the guardrail system are transferred into the trusses, which may result in damage to both the guardrail and truss. Additionally, when the bridge is in an open position, there is a lack of a solid roadway barrier-gate system. This has been identified as a substandard condition of the existing bridge that affects public safety and the functionality of the bridge (Close Jensen & Miller, 2016).

Because the roadway does not meet current design standards, local police have noted instances when a truck approaching the bridge from the east gets stranded because there is either not enough vertical clearance on the bridge or the tonnage of the truck exceeds the posted load limit. In these instances, the Town of Westport Police are called to assist with traffic control while the stranded truck backs up and maneuvers away from the bridge. Police then redirect the truck eastward to the Bridge Street/Compo Road South (Route 136) intersection, and then north along Route 136 to Route 1 where it can safely cross to the western side of the Saugatuck River.

Bicycle and Pedestrian Travel

The existing sidewalk along the bridge does not meet the minimum width requirements for pedestrians in accordance with the Americans with Disabilities Act (ADA). There is also no roadway shoulder to accommodate a dedicated bicycle lane across the bridge. According to the Appendix F of the 2009 Connecticut Statewide Bicycle & Pedestrian Plan Update, the Design Guideline Toolbox (CTDOT, 2009), bicycle lanes are used on suburban and urban roads for the following purposes:

1. Creating on-street separate travel facilities for bicyclists,
2. Providing space for vehicles to safely overtake bicyclists,

3. Reducing or preventing problems associated with bicyclists overtaking vehicles in congested or narrow streets, and
4. Encouraging lower motor vehicle speed by narrowing available lanes.

The existing conditions also do not meet CTDOT's Complete Streets design criteria, an expansion of CTDOT's Complete Street Policy published in August 2023 (CTDOT, 2023a). The Complete Streets design criteria requires pedestrian facilities, including sidewalks, to be provided on both sides of a roadway at a minimum width of five feet. The criteria also require bicycle facilities, including paved outside shoulders or bicycle lanes, to be provided for each direction at a minimum width of five feet for a one-way path, or eight feet for a two-way path. Because Cribari Bridge provides an important crossing over the Saugatuck River for users of the East Coast Greenway (ECG), the provision of improved bicycle and pedestrian facilities on the bridge would enhance safety and the continuity of the ECG through the project area.

Marine Travel

Cribari Bridge is a movable structure that opens to allow marine vessels to access the upstream reaches of the Saugatuck River. In July 2018, the mechanical system failed as a result of overheating, which resulted in the bridge being unable to close for several hours. Several mechanical failures also occurred during the fall of 2019, resulting in the bridge being stuck in the open position and preventing any vehicular traffic from crossing, culminating in the need for mechanical maintenance in November 2019. The bridge was stuck in the open position again in June 2023, requiring additional repairs.

Opening and closing the movable span for marine traffic is time consuming (approximately 20 minutes) under normal conditions, requiring advance notice as the bridge is not regularly attended. Bridge openings are scheduled upon request via phone call to the CTDOT District 3 Office at least two to twenty-four hours in advance of a requested opening depending on the time of year. When scheduled in advance, CTDOT arranges for a bridge attendant to go to the bridge and open it. 33 CFR 117.221(c) dictates the opening schedule of the Cribari Bridge and includes additional detail on time-of-year openings requirements (Saugatuck River, 2024).

1.3 Resource Areas Dismissed from Detailed Analysis

This section provides a summary of the resources that have been evaluated and then dismissed from detailed analysis in this EA/EIE because they were not present in the project area or would not be impacted in the foreseeable future or be impacted by any of the proposed alternatives. The environments and resources requiring more in-depth impact assessment are discussed in Section 3.

1.3.1 Air Quality

All alternatives for the proposed were evaluated for their potential to impact air quality and to determine conformity with the Clean Air Act (CAA) (42 USC 7401 et seq.). Specifically, Section 176(c) of the CAA requires highway projects conform to the state air quality implementation plan (SIP) to ensure that highway project activities do not cause emissions that exceed the limits set forth for nonattainment and maintenance areas. Conformity to a SIP means that project activities would not cause or contribute to any new violations of the National Ambient Air Quality Standards (NAAQS). Established by the U.S. Environmental Protection Agency (EPA), the NAAQS specify the maximum allowable ambient concentrations for specific pollutants. To date, EPA has established NAAQS for six pollutants, commonly known as "criteria pollutants." Transportation sources contribute to four of the six criteria pollutants:

- Particulate matter (PM2.5 and PM10)
- Carbon monoxide (CO)
- Ozone
- Nitrogen dioxide (NO2)

When air quality is tested, the EPA designates areas as either meeting (i.e., being in attainment of), not meeting (i.e., being nonattainment for), or in transition between the two (i.e., being in maintenance for) each NAAQS.

The study area for the Proposed Action is located within the boundaries of a portion of the State that has been classified as attainment-maintenance for $PM_{2.5}$, attainment for PM_{10} and attainment for CO (CTDOT, 2023c; EPA, 2024). The study area is located in an area that is in non-attainment for ozone and is classified as severe for 8-Hour Ozone (2008 Standard) and serious for 8-Hour Ozone (2015 Standard). For NO_2 all of CT is classified as unclassifiable/attainment.

Air Quality conformity is required for all nonattainment or maintenance areas for non-exempt projects. Air Quality conformity is not required for exempt projects because these projects typically have negligible effects on air quality. Under the regulations of 40 CFR 93.126 the Proposed Action is considered an exempt project. Specifically, projects that, "widen narrow pavements or that reconstruct bridges with no additional travel lanes" are exempt from air quality conformity under the Clean Air Act pursuant to 40 CFR 93.126 (Exempt projects, 2008). Projects exempt under 40 CFR 93.126 are also considered to have minimal or no potential for meaningful MSAT emissions and therefore are not required to conduct a quantitative MSAT emissions analysis (US DOT, 2023). Any potential temporary air quality emissions during construction would be avoided or limited through best management practices (BMPs), such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.

1.3.2 Geology and Soils

A review of bedrock, surficial geology, and soil maps of areas affected by the project revealed no unique or important geological formations or soils considered important for preservation or protection, nor any concerns about constructability due to the soils at the site (CTECO, 2023). Therefore, this resource has been dismissed from detailed analysis. hydric soils (i.e., those that are permanently or seasonally saturated by water) in relation to wetland resources are discussed in Section 3.11.

1.3.3 Groundwater

Groundwater underlying the project site is classified by the CTDEEP as "GA" (CTDEEP, 2018). Groundwater designated as Class GA is assumed to be suitable for "existing private and potential public or private supplies of water for drinking without treatment." The site is not located within a public water supply watershed or aquifer protection area (APA). The nearest APA is approximately a mile and a half north of the existing bridge.

1.3.4 Hazardous Waste and Materials

CTDOT is required to comply with applicable federal and state laws and regulations. For any alternative other than the No Build Alternative, a survey would be performed to determine the presence of lead-based paint or other potential hazardous materials, and proper measures would be implemented for safe handling and disposal of such materials in accordance with CTDOT best management practices, standards, and specifications.

Construction machinery, fuels, maintenance fluids, paints, solvents, and other construction materials may be present at the site during construction. Construction activity associated with each of the alternatives would comply with federal and state standards for hazardous materials handling.

Furthermore, CTDOT's Office of Environmental Compliance (OEC) provides technical support and regulatory guidance related to hazardous wastes and regulated contaminated materials, including conducting environmental investigations of suspected waste sites in the vicinity of CTDOT projects and facilities. OEC provides technical support and regulatory guidance related to negotiating cleanup requirements with federal and state regulatory agencies, managing site remedial activities, and obtaining permits or approvals as required. Based on a review of CTDEEP's current List of Contaminated or Potentially Contaminated Sites and the NEPAssist Screening Tool, in the immediate vicinity of Cribari Bridge, there were no contaminated sites identified (CTDEEP, 2024a; US EPA, 2024).

No adverse impacts are anticipated. Land uses in the vicinity of the project limits and the potential for excess soil as a result of construction would be considered during project design. No dredging of sediment from the Saugatuck River is anticipated under any of the alternatives considered. As the design progresses, a testing plan would be developed to assess soil and groundwater in any high-risk areas within which intrusive construction activities are proposed. Remediation measures would be put in place to mitigate potential impacts if contaminated soils or groundwater is confirmed by the testing. If needed, registration under CTDEEP's General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer) would be obtained, and soil management would be conducted in accordance with the General Permit.

1.3.5 Land Use

Land use, as confirmed by July 2017 and May 2020 site visits, and a review of aerial imagery, is categorized as residential on the east side of the Saugatuck River and as mixed residential and commercial/office on the west side of the river. Also located on the west side of the river is the Westport Fire Station, situated on Riverside Avenue between Bridge and Ketchum Streets. Zoning classifications in the project area was derived from the Town of Westport zoning map and regulations (Town of Westport, 2023c). The east side of the bridge is zoned A (single-family residential), and the west side of the bridge is zoned as follows:

- RORD2 – Restricted Office/Retail District allows for the limited use of land and existing buildings for offices, retail stores, multiple-family dwellings and combinations thereof.
- GBD/S – General Business District/Saugatuck allows for residential development including affordable housing in addition to the commercial, office and retail currently allowed in the General Business District in Saugatuck Center resulting in sites developed to enhance and conserve the area's aesthetic appeal and historic scale, massing and character, pedestrian access, and recreational water-related uses and views while limiting the intensity of development consistent with the Town Plan of Conservation and Development.

The bridge, as a transportation facility, is in compliance with current zoning. The project would not result in changes in existing land use patterns or require changes in zoning.

1.3.6 Prime and Unique Farmlands

The Farmland Protection Policy Act (FPPA) regulates federal actions with the potential to convert farmland to non-agricultural uses (Farmland Protection Policy Act, 1994). The FPPA assures that, to the extent possible, federal

programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The closest prime farmlands are located approximately 0.15 mile from the Cribari Bridge. There are no active agricultural land uses, or prime or statewide important farmland soils, located within areas affected by the Proposed Action (CTECO, 2023).

1.3.7 Public Utilities

Information on existing utilities in the vicinity of the Cribari Bridge was obtained through research and consultation with the Town of Westport's Public Works Department, Water Pollution Control Facility, and the various utility companies that serve the project area. Mapping available through the Town of Westport and baseline survey data for the project area was also reviewed (Town of Westport, 2023b).

There are no identified water or sanitary sewer lines on Bridge Street between the Cribari Memorial Bridge and Riverside Avenue (west of the Saugatuck River) – or within the project limits on the east side of the river. Electric service in the vicinity of Cribari Memorial Bridge is provided by Eversource-owned overhead wires that run along Riverside Avenue and Bridge Street. There would be temporary, but not permanent, impacts on public utilities during the construction period from each of the proposed Build Alternatives.

1.3.8 Section 6(f) Resources

Federal protection is afforded to publicly owned parklands and recreation areas purchased, acquired, or improved through funding obtained from the U.S. Land and Water Conservation Fund (LWCF) Act. Section 6(f) requires approval for conversion of grant-assisted properties to uses other than public outdoor recreation. No 6(f) resources exist within areas affected by the project (The Land and Water Conservation Fund, 2024).

1.3.9 Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et. seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Saugatuck River is not designated as a Wild and Scenic River or a river authorized for a study of eligibility and suitability for potentially being included under the Wild and Scenic Rivers Act (US FWS, 2024).

1.3.10 Noise and Vibration

All CTDOT projects are reviewed in accordance with 23 CFR 772, which addresses procedures for abatement of highway traffic noise and construction noise (Procedures for Abatement of Highway Traffic Noise and Construction Noise, 2010). A noise analysis is performed on any project with federal oversight that meets the criteria of a "Type I project" under 23 CFR 772.5. The noise analysis determines if noise abatement is reasonable, and feasible according to CTDOT's Highway Traffic Noise Abatement Policy for Projects Funded by the Federal Highway Administration (CTDOT, 2017), which was created in conformance with 23 CFR 772. The scope of this project, which consists of the replacement of an existing bridge, does not meet the Type I project criteria for conducting a noise analysis, and consequentially, an assessment of highway traffic noise and abatement measures is not required.

All bridge construction activities must comply with Section 1.10.05 "Construction Noise Pollution" of CTDOT's Standard Specifications for Roads, Bridges and Incidental Construction Form 819 (CTDOT, 2024), and all alternatives considered as part of the Proposed Action would follow these standards. There are no Federal requirements specific

to the assessment of highway traffic-induced vibration. Rubber-wheeled vehicles do not produce significant ground-borne vibration. Therefore, vibration is not an issue of concern for the Proposed Action. An assessment of the potential for noise and vibration impacts to aquatic species is discussed in Section 3.14 – Biological Environment.

1.3.11 Energy

This is a resource that is evaluated to comply only with state CEPA regulations. This resource is not evaluated or subject to review and approval by FHWA under federal law or FHWA NEPA regulations 23 CFR 771. Regulations of Connecticut State Agencies, Sec. 22a-1a-8(6)(F), requires discussion within an EIE to include the effects of the action on the use and conservation of energy resources.

Energy consumption at the site includes the use of electricity for opening and closing the bridge, for illuminating streetlights on nearby utility poles, and for lowering safety gates that restrict access during bridge openings. Fossil fuels are also consumed by vehicles traveling through the site and the surrounding environs.

There are state initiatives to reduce energy consumption. Under any of the alternatives considered as part of the EA/EIE, energy consumption would be expected to remain the same or decrease, as the bridge openings and closings would be more energy-efficient under the two Replacement Alternatives that are being considered. During maintenance, repair, or construction periods, there would be intermittent increased local demand for fossil fuels associated with construction vehicles, traffic delays, and stoppages to allow for safe passage around work areas. No impacts on overall energy use or energy availability are anticipated now or in the foreseeable future; therefore, this resource has been dismissed from detailed analysis.

1.4 Intergovernmental Coordination

Interagency meetings were held on December 13, 2017 to receive input on the Purpose and Need Statement for the project – and on November 25, 2019 to receive input on the Alternatives (see Appendix E). The intergovernmental coordination process for this EA/EIE included consultation with the following regulatory agencies to receive their input on alternatives:

- Connecticut Department of Energy and Environmental Protection (CTDEEP)
- Connecticut State Historic Preservation Office (SHPO)
- National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS)
- U.S. Army Corps of Engineers (USACE), New England District
- U.S. Environmental Protection Agency (USEPA), New England Headquarters
- U.S. Coast Guard (USCG), First Coast Guard District
- U.S. Fish & Wildlife Service (USFWS), New England Field Office

Permits anticipated for the project include:

- USACE Individual Section 404 Permit[6]
- CTDEEP Individual Section 401 Water Quality Certification[7]
- CTDEEP Coastal Permit[8]
- CTDEEP Coastal Consistency Review[9]
- CTDEEP Individual Flood Management Certification[10]
- USACE Section 408 Authorization[11]
- USCG Bridge Permit
- CTDEEP Construction Stormwater[12]
- FHWA Programmatic Section 4(f) Assessment

Further consultation forms and/or approvals may also be required from:

- NOAA Essential Fish Habitat
- USFWS and NMFS ESA
- USFWS Information for Planning and Consultation
- SHPO/THPOs for Federally Recognized Tribes
- CTDEEP Fisheries
- State of Connecticut Department of Agriculture/Bureau of Aquaculture
- CTDEEP Natural Diversity Data Base (NDDB)
- Westport Harbor Management Commission
- Westport Shellfish Commission
- CTDEEP Boating Division

Coordination with the Town of Westport, including its Harbor Master and Shellfish Commission, the Western Connecticut Council of Governments (WestCOG), tribal nations, and regulatory agencies, would continue throughout the design and permitting process, as appropriate.

1.5 Public Outreach

Public outreach regarding Cribari Bridge began in November 2015 with a public meeting to kick-off the Rehabilitation Study (State Project #158-212). During the alternatives development phase in 2018, a Public Involvement Plan (PIP) was developed to ensure the public would have access to information and provide a variety of opportunities for engagement. A PAC was formed to provide input to CTDOT and FHWA during the alternatives development phase of the project. In addition to formal public outreach being conducted for the proposed project and PAC meetings during the alternatives development phase of the project, there have also been public informational meetings, presentations before the regional planning agency, and meetings with various Town of Westport committees, commissions, and boards. Meetings and associated notices have included:

[6] Section 404 of the Federal Clean Water Act (33 U.S.C. 1314)
[7] Section 401 of the Federal Clean Water Act (33 U.S.C. 1314)
[8] Eligibility for Certificate of Permission is to be determined. Otherwise, Structures, Dredging and Fill Permit is necessary.
[9] Eligibility for CTDOT Coastal Consistency Review to be determined.
[10] Eligibility for CTDOT General Permit authorized by memorandum of understanding with CT DEEP is to be determined.
[11] Required for making alterations to a USACE Civil Works project, including a navigable waterway (33 U.S.C. 408)
[12] Registration under the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.

- Town/WestCOG Meeting on July 8, 2015.
- Project Informational Meeting on November 23, 2015.
- A Notice of Public Scoping was published in the Connecticut CEQ *Environmental Monitor* on May 17, 2016, June 7, 2016, and June 15, 2016.
- Public Information and Public Scoping Meeting held on June 15, 2016.
- Westport Historic District Commission Special Meeting to discuss NEPA/Section 106 on July 17, 2017.
- Six PAC meetings between July 18, 2018, and May 15, 2025. Summary reports of the PAC meetings are provided in Appendix I.
- A Post-Scoping Notice was published in the Connecticut CEQ *Environmental Monitor* on August 4, 2020, and August 18, 2020.
- A preliminary meeting with the Historic Stakeholders regarding the preferred alternative and MOA was held on December 18, 2025.
- A Notice of Availability of the EA/EIE and notice of the public hearing was published in the Westport News and also posted to the Connecticut CEQ *Environmental Monitor* website on February 17, 2026 and March 10, 2026 .

2 Alternatives

Considering a range of reasonable alternatives to the proposed project based on the defined purpose and need for the Proposed Action is a valuable decision-making process incorporated into CEPA and NEPA. This section provides background on the development of alternatives, the alternatives eliminated from consideration and the rationale for their elimination, the alternatives considered in this EA/EIE, and the identification of the Preferred Alternative. This EA/EIE evaluated five alternatives (see Table 2-2), one involving no build and four "build" alternatives that involve construction:

- No Build Alternative – continuing the existing operations and maintenance of the current bridge
- Conservation Alternative – implementing limited repairs to the current bridge to address some safety and structural needs.
- Rehabilitation Alternative – rehabilitation of the bridge to address more of the safety and structural needs
- On-Alignment Replacement Alternative – constructing a new movable bridge on the same general alignment and demolishing the existing bridge
- Off-Alignment Replacement Alternative – constructing a new movable bridge on an alignment located just north of the existing bridge and demolishing the existing bridge

2.1 Background – Prior Studies

In 2015, under State Project #158-212, an RSR was produced that revealed structural and functional deficiencies and considered a range of five conceptual alternatives to address the deficiencies of the William Cribari Bridge (Close Jensen & Miller, 2016).[13] These conceptual alternatives included: the No Build Alternative, the Minor Repairs Alternative, the One-way Bridge Access Alternative, the Major Rehabilitation Alternative, and the Structure Replacement Alternative. While designing or constructing these concepts was beyond the scope of the RSR, the report evaluated the extent to which the concepts addressed the purpose and need for the project and whether the concepts were technically and economically feasible to construct.

[13] See Appendix H for the RSR.

Three of the five concepts were evaluated and dismissed in the RSR because they did not adequately address the purpose and need of the project. These included the No Build Alternative, the Minor Repairs Alternative, and the One-way Bridge Access Alternative. The other two concepts included in the RSR – the Major Rehabilitation Alternative and the Structure Replacement Alternative – were recommended for further consideration, as they went "a long way to address the purpose and need" (Close Jensen & Miller, 2016, p. 21). These two concepts have been developed and are carried into this current State Project #158-214 EA/EIE as the "Rehabilitation Alternative" and "Off-Alignment Bridge Replacement Alternative" (Sections 2.3.3 and 2.3.5). The "Minor Repairs Alternative" that was originally dismissed from the RSR was added back into the list of alternatives considered in this EA/EIE at the request of the Project Advisory Committee (PAC). It is identified as the Conservation Alternative.

2.2 Alternatives Considered but Eliminated from Detailed Analysis

The following alternatives were dismissed from detailed analysis, either through the RSR or through preliminary analysis because they failed to meet the purpose and need, would be inferior to other alternatives in meeting the purpose and need, were determined to not be feasible and prudent, or would result in a higher potential for adverse effects as described below and summarized briefly in Table 2-1.

2.2.1 One-Way Bridge Access

The One-Way Bridge Access Alternative proposed to permanently re-route one direction of Route 136 traffic north along Riverside Avenue/Route 33 to Route 1. The One-Way Bridge Access Alternative proposed to repair the damaged and deteriorated ornamental truss system and Pier 2 and replace the existing bridge guardrail with a MASH-compliant system that would be installed to provide adequate clearance to preclude impact damage to the trusses. The new guardrail system would reduce the existing nineteen-foot and six-inch curb-to-curb width.

A traffic analysis was performed that modeled the one-way operations in each direction. In both directions, existing traffic conditions worsened, with many surrounding intersections at Route 1 operating in a failed condition where the traffic exceeded the intersection's capacity. This alternative was considered not feasible and was dismissed due to the detrimental impact that permanent redirection of traffic would have on the surrounding area. Travelers already experience delays at intersections along Route 1. Improving traffic operations at intersections to an acceptable level would require substantial work along Route 1, such as providing additional lanes, resulting in the removal of on-street parking, reducing sidewalks, and property acquisitions that could necessitate the removal of buildings. The implementation of a one-way lane would also restrict emergency response services, law enforcement, and the fire department from efficiently accessing locations within Westport.

2.2.2 Elevated Fixed-Span Replacement Alternative

The Elevated Fixed-Span Replacement Bridge Alternative proposal would result in the construction of a new structure with a low chord elevation set high enough to allow for marine vessels to travel safely beneath the structure. This alternative emerged from a discussion at a December 13, 2017 Interagency Meeting with representatives from the USCG, USACE, NOAA NMFS, CT Office of Policy and Management (OPM), CTDEEP, and SHPO. This alternative would require raising the approach roadways and would result in substantial impacts to the surrounding areas. Due to the magnitude and severity of impacts anticipated from this alternative to the surrounding community – such as impacts

to commercial and residential properties, traffic behavior, the navigable channel, and the character of the community – it was determined not to be reasonable and was not advanced for further analysis in the NEPA/CEPA process.

2.2.3 Construct New Bridge on New Alignment without affecting the Historical Integrity of the Old Bridge

The existing bridge is on a fixed alignment that carries Route 136 over the Saugatuck River. A new bridge on a new alignment, either to the north or south, would need to be located a sufficient distance from the existing bridge to avoid any conflicts when both bridges are in the open position for marine vessel passage. This would also require substantial property acquisitions for the new bridge and connecting roadway resulting in disruption to the community and additional costs. The existing bridge would also need to be repaired and maintained over time to retain its movable function, further adding to the project costs. If the existing bridge were not repaired and maintained, the machinery could potentially fail and the bridge could be stuck in the closed position (restricting marine travel along a navigable waterway) or in the open position (restricting vehicular traffic). Without repairs and maintenance, the existing bridge would continue to deteriorate until such a point that the bridge would need to be closed to use due to public safety concerns.

Table 2-1: Alternatives not advanced for detailed analysis

Alternative	Reasons for Not Advancing
One-Way Bridge Access	• Adverse effect on traffic operations, including increased delays and restrictions in access for emergency response vehicles • Mitigation of traffic operations impacts would create adverse effects on surrounding area businesses and residences • Does not meet the Purpose and Need
Elevated Fixed-Span Replacement	• Adverse effects on commercial and residential properties, traffic behavior, the navigable channel, • Does not meet the Purpose and Need
Construct New Bridge on New Alignment without affecting the Historical Integrity of the Old Bridge	• Distance needed between the existing bridge and new bridge to avoid any conflicts when both bridges are in the open position for marine vessel passage • Additional property acquisitions required – resulting in added costs • Existing bridge would need to be rehabilitated to maintain its movable function, further adding to the project costs • This avoidance alternative was deemed not prudent (in keeping with the definitions established in 23 CFR §774.17)

2.3 Alternatives Evaluated

2.3.1 No Build Alternative

The No Build Alternative represents a continuation of the existing conditions with no proposed improvements or changes to the current CTDOT maintenance practices or level of management intensity. The bridge would remain operational until such a point that the level of deterioration would deem the bridge unsafe for public use and require it to be closed. CTDOT maintenance activities would be performed to repair minor elements to extend the service life of the existing bridge as much as possible; however, the bridge would eventually reach a point where major construction would need to be done (requiring initiation of a full project development process) to ensure the bridge remains usable.

The bridge is already in substandard condition with weight restrictions that are in effect. The anticipated service life of the bridge under the No Build Alternative is 10 to 15 years.

2.3.2 Conservation Alternative

Suggested by the PAC, the "Conservation Alternative" most closely resembles both the "Minor Repairs" concept that was previously evaluated and dismissed in the RSR. As described in the RSR, the Minor Repairs Alternative proposed to focus on repairing only the damaged and deteriorated bridge elements, primarily the ornamental trusses and Pier 2, while also addressing any minor damage found throughout the structure. However, it would not provide any improvements to the structure or preventative measures to reduce the risk of future damage and would not correct the structural deficiencies of the bridge.

The Conservation Alternative would restore the bridge to a similar condition to that of the 1990s rehabilitation project. While the Conservation Alternative addresses structural deficiencies identified in the purpose and need (including lifting the weight restriction), this alternative would not widen the bridge curb-to-curb width or the existing sidewalk along the north side of the bridge, and a MASH-compliant guardrail would not be installed. The mechanical/electrical system would also remain and operate as originally designed for the 1990s rehabilitation project. The Conservation Alternative does not propose modifications to improve the climate resiliency of the electrical and mechanical systems. It does not include raising the system or the approach roadways above the 100-year flood elevation, nor does it propose retrofitting the bridge to bring the trusses into conformance with current standards for wind effects. The Conservation Alternative has an anticipated 25- to 40-year service life.

Key elements of the Conservation Alternative include:

- Replacing damaged or deteriorated bridge components and performing structural repairs to Piers 2 and 3
- Repairing damaged truss members, including those that support the electrical box over the travel lanes to slightly increase the posted vertical clearance of the bridge
- Lengthening the Bridge Street westbound right-turn storage lane at the intersection of Bridge Street and Riverside Avenue to address vehicular safety and make the intersection flow better

Construction-related activities of this alternative would include:

- Installation of a temporary bridge
- Repairing damaged bridge components and performing structural repairs to Piers 2 and 3, which may require barge mounted cranes and floating work platforms
- Reconstructing the subgrade, base, and surface of the approach roadways
- Short-term partial or full closure of the navigation channel
- Construction staging locations for the Conservation Alternative (and all the other build alternatives) would be identified and evaluated later in the design phase. However, due to the limited right-of-way (ROW), they would likely be primarily off site. See Figure 2-1 for the Conceptual Plan of the Conservation Alternative.

2.3.3 Rehabilitation Alternative

The Rehabilitation Alternative retains many of the elements of the existing bridge. The Rehabilitation Alternative is similar to the Conservation Alternative in that it includes all of the same repairs to the existing bridge, as well as lengthening the Bridge Street westbound right-turn storage lane at the intersection of Bridge Street and Riverside Avenue. Like the Conservation Alternative, the Rehabilitation Alternative would not increase roadway capacity or expand the bridge roadway's curb-to-curb width. However, the potential widening of the existing sidewalk along the north side of the bridge was discussed during a PAC meeting on November 28, 2018, when the initial concept was reviewed. Unlike the Conservation Alternative, the trusses would be spread by approximately one to two feet on each side, reducing the chance for impact damage, while also providing sufficient clearance for installation of a MASH-compliant guardrail system along the bridge. The mechanical/electrical system would also remain and operate as originally designed for the 1990s rehabilitation project. This alternative does not propose modifications to improve resiliency of the electrical and mechanical systems or the approach roadways by raising these above the 100-year flood elevation or retrofitting the bridge to bring the trusses into conformance with current standards for wind effects. the Rehabilitation Alternative would have a 25- to 40-year service life.

Key elements of the Rehabilitation Alternative that differ from the Conservation Alternative include:

- Widening of the existing ornamental trusses by approximately one to two feet to help reduce vehicular impact damage and to move the electric box outside of the travel way
- Installing a MASH-compliant guardrail system and a solid roadway barrier system at both roadway approaches, and reconstructing the subgrade, base, and surface of the approach roadways, full depth (+/- two feet)
- Reconstructing or replacing the Pier 2 support system and increasing the vertical clearance along the bridge to satisfy functional adequacy and CTDOT design standards
- Patching the substructure and deck (incorporating water-resistance into membrane) and replacing the mechanical/electrical equipment with newer, water-resistant equipment
- Replacing the existing fender system protecting the piers within the navigable channel

Construction-related activities of this alternative would include:

- Installation of a temporary bridge
- Removing the trusses from the existing bridge during construction for repair, painting, and widening
- Short-term partial or full closure of the navigation channel
- See Figure 2-2 for the Conceptual Plan of the Rehabilitation Alternative.

2.3.4 On-Alignment Bridge Replacement Alternative (Preferred Alternative)

The On-Alignment Bridge Replacement Alternative (i.e., the Preferred Alternative) would replace the existing bridge with a movable bridge structure on the same alignment as the existing one. Final design elements and dimensions for the replacement structure have not been developed at this time; however, for the purposes of this EA/EIE, the assumed replacement bridge would be comprised of new abutments to replace the existing abutments in about the same location as the existing, in addition to new in-water piers (including a movable bridge foundation pier). Due to the disparity in length, width, and height between the existing bridge and the replacement bridges, the ornamental trusses would not properly fit on either of the replacement bridges. Therefore, they are not considered for reuse on a new replacement bridge. This alternative proposes the following key elements:

- Providing a minimum roadway vertical clearance that meets current design standards
- Installing a MASH-compliant guardrail system and a solid roadway barrier system and providing bicycle path/shoulder widths of four to five feet and an ADA-compliant sidewalk along the north side
- Increasing the marine vertical clearance for marine vessels to pass under the bridge in the closed position and providing faster bridge openings
- Supporting current bridge load standards
- Lengthening the Bridge Street westbound right-turn storage lane at the intersection of Bridge Street and Riverside Avenue
- Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses.

To make the bridge more resilient to flooding and wind, the On-Alignment Bridge Replacement Alternative proposes water-resistant mechanical and electrical equipment located above the projected 100-year flood elevation, which is projected to be at elevation 14.64 feet NAVD88 by 2050. This would reduce the potential for the equipment to become inundated and damaged during major storm events. The On-Alignment Bridge Replacement Alternative would also raise the approaches to alleviate any flooding from the current 100-year coastal flooding event. However, the west approach and surrounding area would be difficult to elevate above the currently projected elevation of the 100-year tidal event due to the numerous nearby businesses and intersections. Bridge replacement would alleviate all wind loading concerns.

Construction-related activities of this alternative would include:

- Installation of a temporary bridge
- Removal and replacement of the existing bridge and piers and replacing abutments and wingwalls
- Replacing the existing bridge's fixed superstructure, piers, and fender system, which may require large cranes and barges and/or temporary trestles
- Construction of a cofferdam and marine enclosures, and the construction of a movable span of the new bridge in place with cranes from each approach (or constructing it off-site and floating into place)
- Reconstructing the subgrade, base, and surface of the approach roadways
- Short-term partial or full closure of the navigation channel

Construction of the new bridge would take about three years, with pedestrian and vehicular traffic maintained on the temporary bridge. There would be restrictions on marine travel during construction.

The service life of the On-Alignment Bridge Replacement Alternative (Preferred Alternative) would be 75 to 100 years.

See Figure 2-3 for the Conceptual Plan of the On-Alignment Replacement Alternative (Preferred Alternative).

2.3.5 Off-Alignment Bridge Replacement Alternative

The Off-Alignment Bridge Replacement Alternative would remove and replace the existing bridge with a movable bridge on an alignment that is north of the existing bridge. An alignment to the south was dismissed due to the widening of the Saugatuck River, resulting in a far larger and more expensive bridge. Final design elements for a full replacement structure have not been developed at this time; however, for the purposes of this EA/EIE, the assumed replacement bridge would be comprised of new abutments in new locations and new in-water piers, including a movable bridge foundation pier. This alternative proposes all the same actions as the On-Alignment Alternative (Preferred Alternative) except that the location would be to the north of the existing bridge. Like the On-Alignment Bridge Replacement Alternative, the Off-Alignment Bridge Replacement Alternative option would raise the approaches to alleviate any flooding from the current 100-year coastal flooding event. However, the west approach and surrounding area would be difficult to elevate above the currently projected elevation of the 100-year flood event due to the numerous nearby businesses and intersections. Bridge replacement would alleviate all wind loading concerns.

Construction activities would include all the same actions as those described for the On-Alignment Alternative (i.e., the Preferred Alternative), except that the existing bridge would remain open to traffic during construction, a temporary bridge would not be constructed, and the phasing of construction activities would be modified. There would be restrictions on marine travel during construction. Construction of this new bridge would take approximately three years.

The service life of the Off-Alignment Bridge Replacement Alternative is estimated to be between 75 and 100 years.

See Figure 2-4 for the Conceptual Plan of the Off-Alignment Replacement Alternative.

2.4 Comparison of Alternatives

The five alternatives presented above have been carried forward for evaluation with respect to their natural, social/community, and physical environmental implications – both beneficial and adverse. Table 2-3 below provides a summary of the framework used for evaluating how each of the alternatives satisfy the elements of the Purpose and Need (see in Section 1.2) that was determined by CTDOT in collaboration with the FHWA – and through discussions with PAC stakeholders, which represented a cross-section of elected officials and interest groups from the local and regional community.

Route 136, including the Cribari Bridge, is classified as an “Intermediate Minor Urban Arterial Roadway.” This classification defines design parameters that the roadway and bridge must meet in accordance with CTDOT design standards. These design parameters were incorporated as part of the Purpose and Need parameters included in Table 2-3. How well each of the alternatives meets the Purpose and Need is summarized in Table 2-3 by a “YES” or “NO,” indicating that the alternative either addresses, or fails to address, each parameter, respectively.

Based on the summary comparison presented in Table 2-3, only two of the alternatives address all the Purpose and Need elements and parameters, some alternatives fully meet more elements and parameters of the Purpose and Need than others, and each of the alternatives also presented other desirable outcomes:

- The No Build Alternative fails to meet the “Addresses the structural and functional deficiencies of the existing bridge” and “Accommodates safe vehicular, bicycle, pedestrian, and marine traffic” elements.
- The Conservation Alternative only partially meets the “Addresses the structural and functional deficiencies of the existing bridge” element, and it only addresses one of the parameters of the “Accommodates safe vehicular, bicycle, pedestrian, and marine traffic” element. The Conservation Alternative would require less than two years of construction.
- The Rehabilitation Alternative only partially meets the “Addresses the structural and functional deficiencies of the existing bridge” and “Accommodates safe vehicular, bicycle, pedestrian, and marine traffic” elements. While this alternative fails to meet the parameters required to fully address the Purpose and Need, the Rehabilitation Alternative would avoid the demolition of the existing bridge.
- The two Replacement Alternatives fully meet all elements of the Purpose and Need. Additionally, the two Replacement Alternatives also provide enhanced pedestrian and bicyclist user experiences by adding wider sidewalks and bike travel lanes, and they also increase the ease of mobility at the Bridge Street/Riverside Avenue intersection and increase the service life of the bridge to greater than 50 years.

Table 2-2: Summary of Design Changes for the five alternatives evaluated in this EA/EIE

	No Build	**Conservation**	**Rehabilitation**	**Replacement (On-Alignment)**	**Replacement (Off-Alignment)**
Work Involved	• Minor repairs performed, as required, by DOT Maintenance crews • Represents existing conditions	• Restore bridge to its 1993 condition • Repair of damaged elements • Structural repair of Piers 2 and 3	• Repair/widening of trusses • Structural repair of Piers 2 and 3 • MASH-compliant guardrail • Water-resistant mechanical equipment • Roadway barrier for bridge openings	• Replacement of the existing bridge with a new structure on a similar alignment	• Replacement of the existing bridge with a new structure on an alignment located north from the existing
Design Considerations					
Roadway Vertical Clearance	13’-10”	13’-10”	13’-11” to 14’-3”	16’-3” (min.) **	16’-3” (min.) **
Marine Vertical Clearance	Less than 7’-0”	Less than 7’-0”	Less than 7’-0”	Increased from existing **	Increased from existing **
Lane Width	9’-9”	9’-9”	9’-9”	10’ to 12’ **	10’ to 12’ **
Bike Path/Shoulder Width	0’	0’	0’	4’ to 5’ **	4’ to 5’ **
Intersection Improvements	No change from existing	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.
Sidewalks	No change from existing	≥ 5’ sidewalk located along north side	≥ 5’ sidewalk located along north side	5’-6’ wide sidewalk along north side	5’6’ wide sidewalk along north side
Bridge Openings	No change from existing	No change from existing	No change from existing	Reduced/faster bridge openings	Reduced/faster bridge openings
Property Acquisition, Displacement, and Relocation	No impacts	Temporary easements for temporary bridge**	Temporary easements for temporary bridge**	Temporary easements for temporary bridge**	Permanent acquisitions and temporary easements anticipated **
Construction Disruption to Property	• Off-peak closures of bridge to perform maintenance	• Temporary impacts to north parking lot • Temporary relocation to driveway	• Temporary impacts to north parking lot • Temporary relocation to driveway	• Temporary impacts to north parking lot • Temporary relocation to driveway	• Permanent partial take of parking lot • Permanent relocation of driveway
Construction Duration	As needed for maintenance	2-3 years	2-3 years	3 years	3 years
Anticipated Structure Service Life	10-15 years	25-40 years	25-40 years	75-100 years	75-100 years
Estimated Cost ***	Maintenance costs as required	$49,000,000 - $54,000,000	$50,000,000 - $55,000,000	$78,000,000 - $86,000,000	$66,000,000 - $73,000,000

**Under consideration based on PAC discussion.*

***Exact values would be vetted out at design level if chosen.*

****Estimated costs are derived from the Rehabilitation Study Report (RSR). These are provided for alternative analysis, and full designs for cost analysis have not yet been developed.*

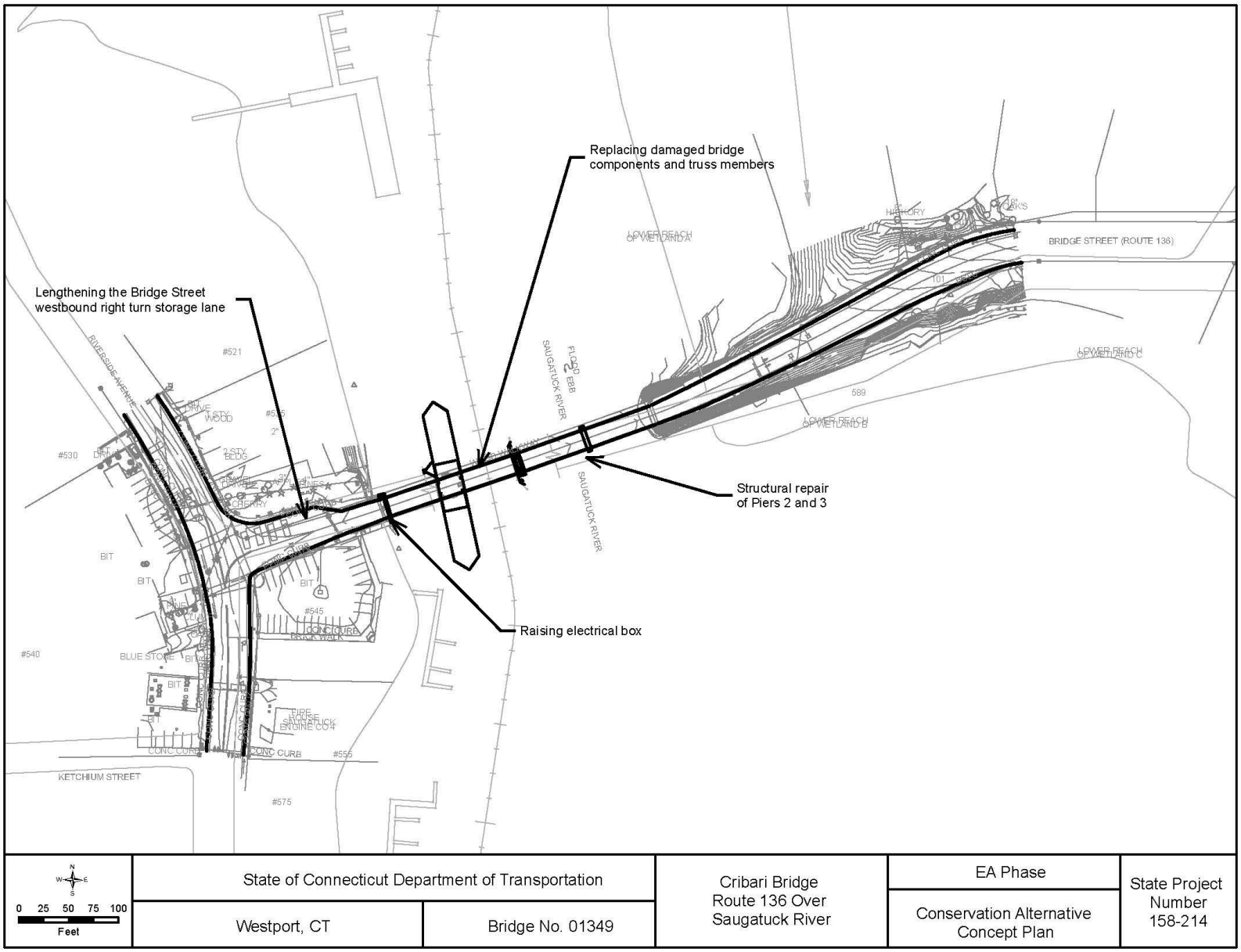


Figure 2-1: Conceptual Plan for the Conservation Alternative

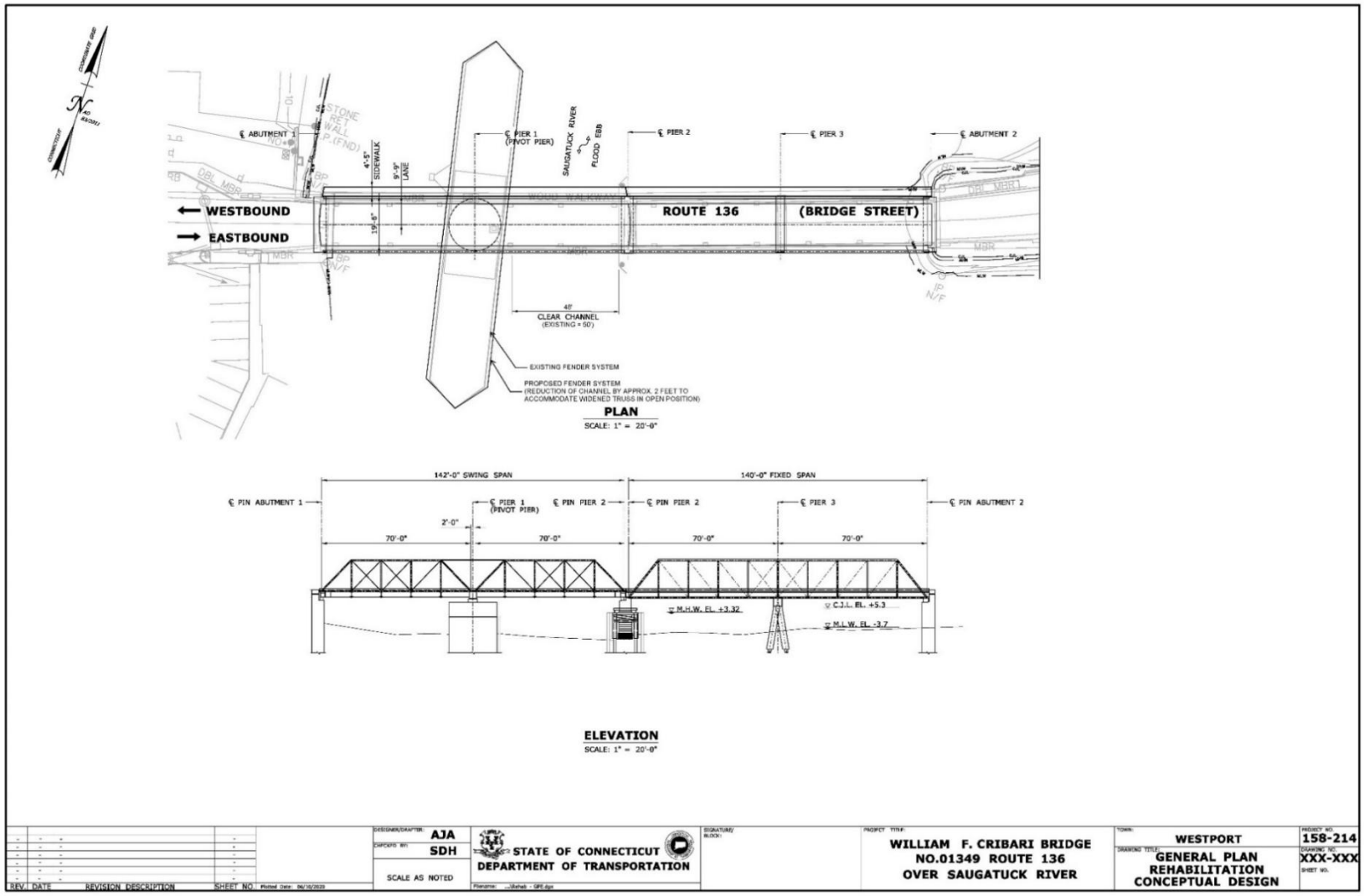


Figure 2-2: Conceptual Plan for the Rehabilitation Alternative

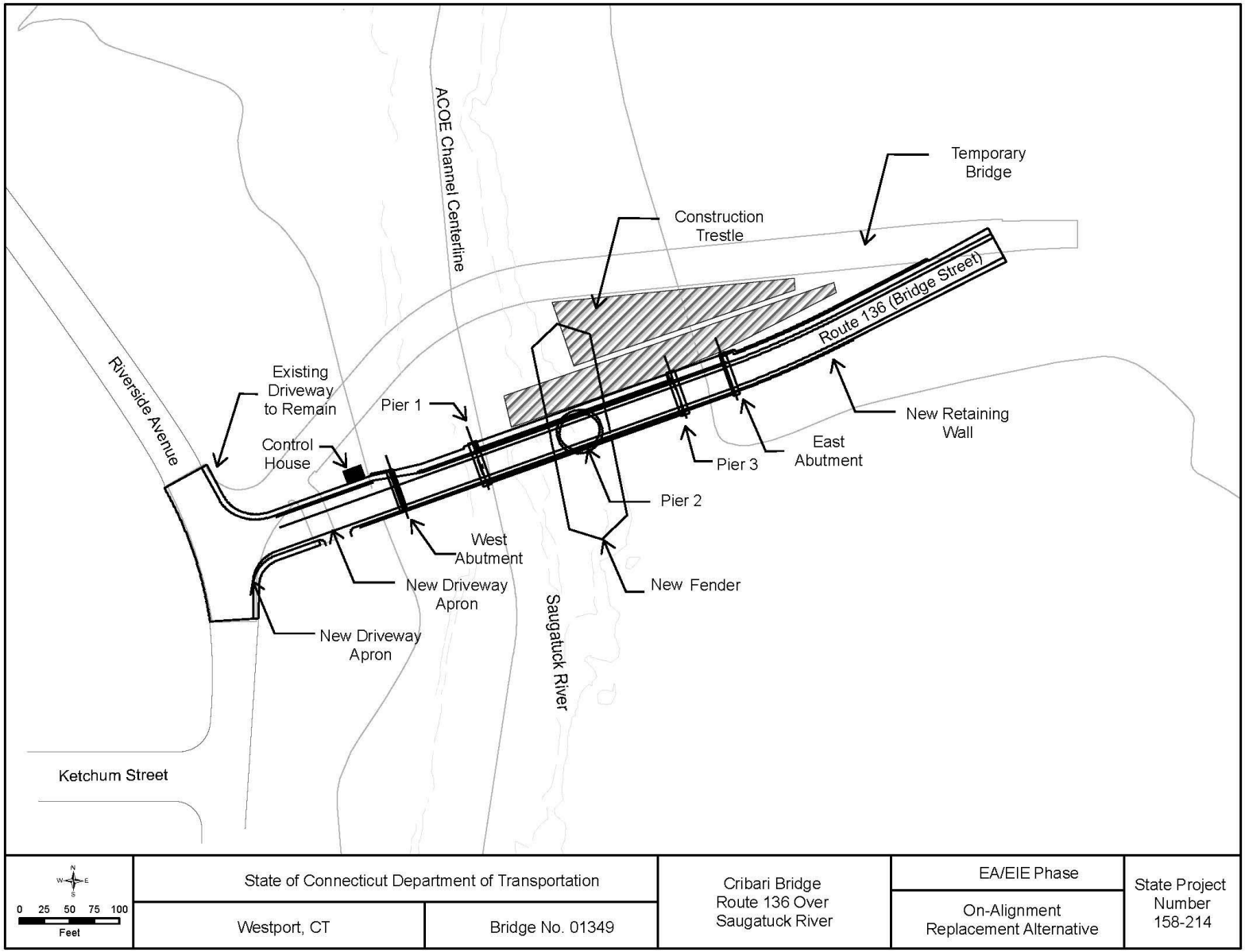


Figure 2-3: Conceptual Plan for the On-Alignment Bridge Replacement Alternative (the Preferred Alternative)

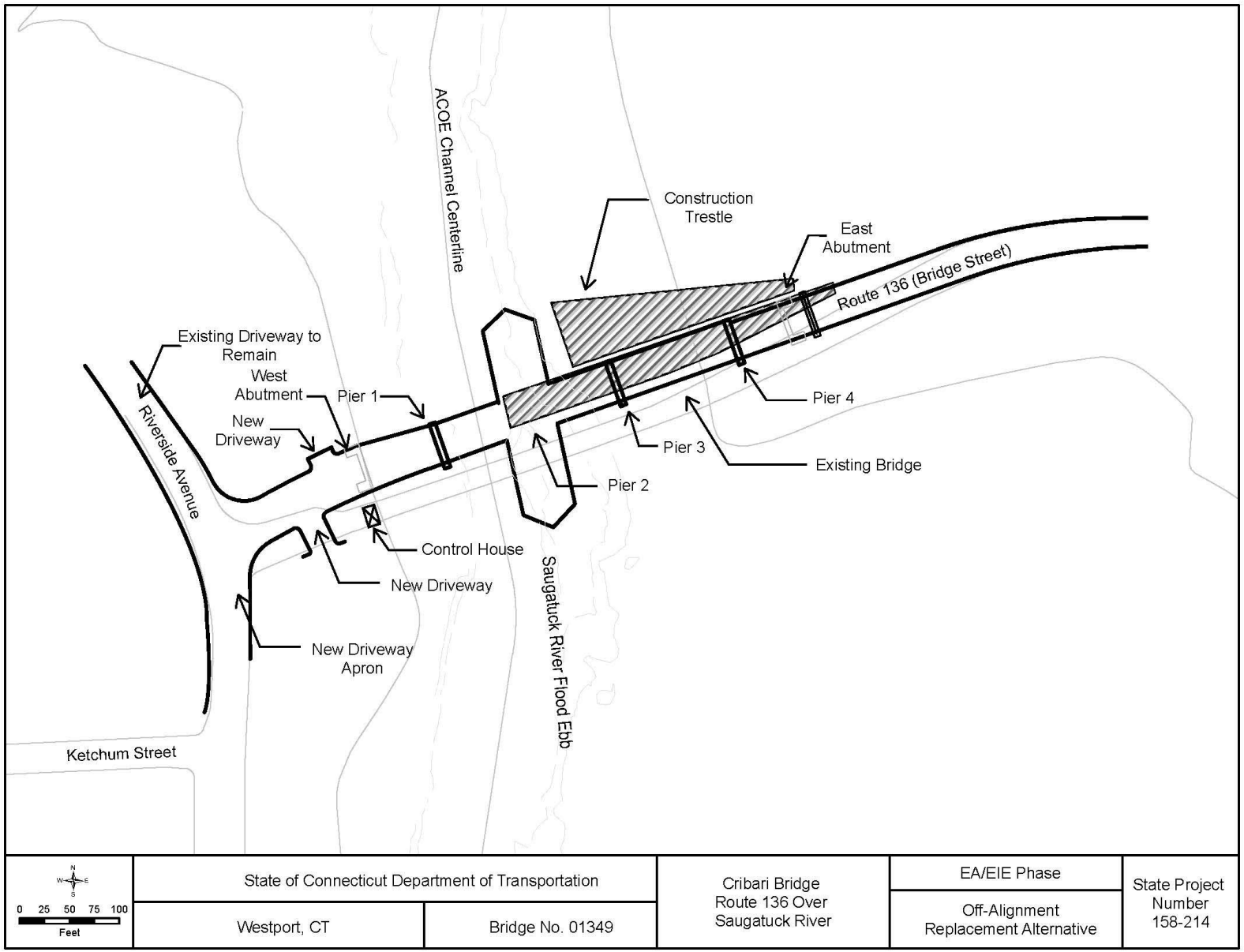


Figure 2-4: Conceptual Plan for the Off-Alignment Bridge Replacement Alternative

Table 2-3: Alternative evaluation matrix using the purpose and need framework

	No Build		Conservation		Rehabilitation		Replacement (On-Alignment)		Replacement (Off-Alignment)
Purpose & Need Element: Addresses the structural and functional deficiencies of the existing bridge									
Parameter: Adequate vertical clearance	NO		NO		YES		YES		YES
Parameter: Adequate horizontal clearance	NO		NO		NO		YES		YES
Parameter: Meets standard load rating for bridges on State routes	NO		YES		YES		YES		YES
Parameter: "Fair" condition or better	NO		YES		YES		YES		YES
Parameter: Mechanical/electrical equipment (raises above 100-year storm elevation)	NO		NO		NO		YES		YES
Parameter: Mechanical/electrical equipment (replaces with newer water-resistant equipment)	NO		NO		YES		YES		YES
Purpose & Need Element: Accommodates safe vehicular, bicycle, pedestrian, and marine traffic									
Parameter: Safe bicycle travel (bike lane or shoulder)	NO		NO		NO		YES		YES
Parameter: ADA compliant sidewalk	NO		NO		NO		YES		YES
Parameter: Safe bridge guardrail system (MASH-compliant)	NO		NO		YES		YES		YES
Parameter: Solid roadway barrier system	NO		NO		YES		YES		YES
Parameter: Vertical clearance (increased in closed position to reduce openings)	NO		NO		NO		YES		YES

2.5 Summary of Impacts by Alternative

This section includes a brief, comparative summary of the impacts by alternatives. For a more complete description of impacts related to each of the alternatives see Section 3.

- Table 2-4 is organized to present post-construction impacts anticipated from each of the alternatives. The purpose of this table is to present the alternatives and impacts (adverse and beneficial) in comparative form to clearly define issues of concern and provide a clear basis for choice among options. As depicted in Table 2-4, the On-Alignment Replacement Alternative would provide several beneficial impacts, including improvements for both land- and water-based businesses, and raising the bridge would reduce flooding impacts and create faster and more reliable bridge openings. The No Build, Conservation, and Rehabilitation Alternatives would not offer these improvements.
- Both Replacement Alternatives would improve traffic operations and safety, improving conditions for first responders, bicyclists, pedestrians, and other users. The No Build, Conservation, and Rehabilitation Alternatives would not offer these improvements.
- While all the Build Alternatives would have construction period impacts, such as restrictions on the navigable channel, the time period for the replacement bridges would be longer than the Conservation or Rehabilitation Alternatives.
- Both Replacement Alternatives would have an adverse effect on cultural resources under Section 106; whereas, the No Build, Conservation, and Rehabilitation would have no adverse effect.
- The Off-Alignment Replacement Alternative would permanently take multiple partial properties; the other Build Alternatives would only involve temporary easements.
- The Rehabilitation Alternative would permanently reduce the navigable channel by two feet, constituting an adverse impact.
- While all the Build Alternatives would impact natural resources, the Off-Alignment and On-Alignment Replacement Alternatives would have a greater impact than the Conservation or Rehabilitation Alternatives due to the increased footprint.

Overall, the On-Alignment and Off-Alignment Replacement Alternatives provide more improvements and beneficial impacts than the Conservation and Rehabilitation Alternatives. The On-Alignment Replacement Alternative has fewer adverse impacts than the Off-Alignment Replacement Alternative.

Table 2-5 summarizes additional temporary, construction-related impacts for each alternative. These are not considered permanent impacts and would not affect post-construction conditions. CTDOT/FHWA would complete the commitments as shown in Table 2-6 during design and construction of the Project. Commitments are dependent on the alternative selected for the project.

2.6 Preferred Alternative

After comparing all five alternatives against the Project Purpose and Need (see Table 2-3) and considering the adverse and beneficial impacts (see Table 2-4), CTDOT and FHWA have identified the On-Alignment Replacement Alternative as the Preferred Alternative. As described throughout this document, the On-Alignment Replacement Alternative best addresses the project's purpose and need and other desirable outcomes, while minimizing impacts. As such, the On-Alignment Replacement Alternative is referred to as the Preferred Alternative throughout this EA/EIE

2.7 Mitigation Measures for the Preferred Alternative

CTDOT and FHWA have designed the project to avoid and minimize impacts to the extent practicable. Coordination with various regulatory agencies is ongoing. Project proponents would adhere to special conditions and mitigation measures that may emerge through these coordination processes, such as from the Section 106 consultation.

Table 2-4: Tabular summary of post-construction impacts by alternative

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Property Acquisition, Displacement, and Relocation	*None*	*No permanent impacts*	*No permanent impacts*	*No permanent impacts*	**Negative effect: Fewer than 10 permanent partial property takings, reduced parking area, and removal or relocation of private dock**
Consistency with State, Regional, and Local Plans	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other local plans that focus on maintaining the function and structure of the bridge.**	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other local plans that focus on maintaining the function and structure of the bridge.**	**Negative effect: Not fully consistent with regional hazard mitigation and long-term transportation plans that focus on improving the safety of the traveling public, providing more bicycling opportunities, and reducing long-term risks to infrastructure from flooding** **Positive effect: Consistent with other state, regional, and local plans**	**Negative effect: Not consistent with local plan for conservation and development that aims to maintain the existing bridge.** **Positive effect: Consistent with state and regional plans**	**Negative effect: Not consistent with local plan for conservation and development that aims to maintain the existing bridge.** **Positive effect: Consistent with state and regional plans**
Socioeconomics	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance**	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance.**	**Negative effect: Future bridge closures required during periods of flooding and ongoing maintenance.**	**Positive effect: Improved traffic movement to land- and water-based businesses and reduced travel delays.**	**Negative effect: Permanent impact on two businesses due to permanent relocation of driveway and reduced parking.** **Positive effect: Improved traffic movement to land- and water-based businesses and reduced travel delays.**
Traffic and Transportation	**Negative effect: Transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements, low level of service at Bridge Street and Riverside Ave intersection during morning peak traffic) would remain or worsen in the event of further load restrictions.**	**Negative effect: Some transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements) would remain.** **Positive effect: Improvements to traffic operations at Bridge Street intersections and load restrictions. Slight increase in vertical clearance height due to repairs.**	**Negative effect: Some transportation-related operational and safety issues (e.g., lack of bike/ped and ADA improvements) would remain.** **Positive effect: Improvements to traffic operations at Bridge Street intersections, traffic delays, and load restrictions. Increased vertical clearance height. Additional improvements to safety from widening the bridge trusses and installing a MASH-compliant guardrail and new solid barrier system for bridge openings.**	**Positive effect: Improvements to maneuverability for all vehicles, mobility and safer passage for cyclists, pedestrian safety, and ADA compliance. Additional reductions to the potential for low-speed crashes and full operational cycle of the bridge (from 20 minutes to 8 minutes).**	**Positive effect: Improvements to maneuverability for all vehicles, mobility and safer passage for cyclists, pedestrian safety, and ADA compliance. Additional reductions to the potential for low-speed crashes and full operational cycle of the bridge (from 20 minutes to 8 minutes).**

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Public Safety and Security	*None*	*None*	*None*	**Positive effect: Enhanced mobility for emergency responders and likely mitigation of multi-vehicle sideswipe crashes and single-vehicle fixed object crashes due to wider travel lanes and shoulders. Improvements to pedestrian mobility through ADA-compliant sidewalk.**	**Positive effect: Enhanced mobility for emergency responders and likely mitigation of multi-vehicle sideswipe crashes and single-vehicle fixed object crashes due to wider travel lanes and shoulders. Improvements to pedestrian mobility through ADA-compliant sidewalk.**
Visual and Aesthetics	*None*	*Visual impacts would be neutral (see Section 3.6)*	*Visual impacts would be neutral (see Section 3.6).*	*Visual impacts would be neutral (see Section 3.6).*	*Visual impacts would be neutral (see Section 3.6).*
Cultural Resources	*No Adverse Effect under Section 106*	*No Adverse Effect under Section 106*	*No Adverse Effect under Section 106*	**Negative effect: Adverse Effect under Section 106 resulting from removing of existing historic bridge.**	**Negative effect: Adverse Effect under Section 106 resulting from removing of existing historic bridge.**
Section 4(f)	*No use under Section 4(f)*	*No use under Section 4(f)*	*No use under Section 4(f)*	**Negative effect: Use under Section 4(f)**	**Negative effect: Use under Section 4(f)**
Water Resources and Water Quality	*None*	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from the lengthening of the right turn lane from Bridge Street.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from the lengthening of the right turn lane from Bridge Street.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from a widened roadway and sidewalk.** **Positive effect: Improvements to water quality from new stormwater pretreatment and drainage collection systems.**	**Negative effect: An increase in impervious surface and subsequent runoff generation potential resulting from a widened roadway and sidewalk.** **Positive effect: Improvements to water quality from new stormwater pretreatment and drainage collection systems.**
Navigable Waters	*None*	*None*	**Negative effect: Reduced channel width by approximately 2 feet**	**Positive effect: Vertical clearance of the bridge in the closed position would be increased from existing ***	**Positive effect: Vertical clearance of the bridge in the closed position would be increased from existing ***
Wetlands	*None*	**Negative effect: Structural repairs to Piers 2 and 3 would require in-water work that has the potential to permanently affect wetlands with the installation of new support piles.**	**Negative effect: Structural repairs to Piers 2 and 3 would include in-water work, as well as expansion of the fender system that has the potential to permanently affect wetlands.**	**Negative effect: Piles to support new fender system and a larger footprint for the new mechanical pier that would both result in a permanent loss of river bottom habitat. Additionally, widening the eastern would cause impacts to tidal wetlands to the north and south of the approach.** **Positive effect: Existing Pier 3 would be removed, which would offset some, but not all, of the impact of the new piers and piles.**	**Negative effect: Several new piers would result in a permanent loss of river bottom habitat greater than any of the other alternatives, and impact from the footprint of support piles would result in additional loss of bottom habitat.** **Positive effect: All piers of the existing bridge would be removed, and the river bottom would be allowed to restore naturally, offsetting some of the impact of the new piers and piles.**
Floodplains	*None*	*None*	*None*	**Positive effect: Larger hydraulic opening compared to the existing bridge. New superstructure, mechanical equipment, and upper portions of the substructure**	**Positive effect: Larger hydraulic opening compared to the existing bridge. New superstructure, mechanical equipment,**

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
				would be above the current FEMA base flood elevation (BFE).	**and upper portions of the substructure would be above the current FEMA BFE.**
Coastal Resources	*None*	*Improvements would be consistent with CT Coastal Management Act (CCMA).*	*Improvements would be consistent with CT Coastal Management Act (CCMA).*	**Negative effect: Not fully consistent with CCMA policy, as it includes permanent and temporary encroachments on coastal resources, although they would not disrupt the functions and values of those resources.**	**Negative effect: Not fully consistent with CCMA policy, as it includes permanent and temporary encroachments on coastal resources, although they would not disrupt the functions and values of those resources.**
Biological Environment-Flora and Fauna	*None*	*None currently anticipated*	*None currently anticipated*	**Negative effect: Permanent impacts to the river bottom benthic habitat and mudflat habitat due to newly located and larger piers.**	**Negative effect: Permanent impacts to the river bottom benthic habitat and mudflat habitat due to newly located and larger piers.**
Biological Environment-Threatened and Endangered Species	*None*	*None currently anticipated*	*None currently anticipated*	*None currently anticipated*	*None currently anticipated*
CEPA-Specific Impacts					
Climate Change and Sea Level Rise	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** *No substantial permanent changes to greenhouse gas (GHG) emissions anticipated.*	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**	**Negative effect: Mechanical and electrical equipment would be inundated by more frequent storm events and eventually the daily tidal cycle. The trusses would remain vulnerable to wind exposure.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**	**Positive effect: More resilient to current and future storm events and tidal flooding. Increased wind loading concerns would also be alleviated.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**	**Positive effect: More resilient to current and future storm events and tidal flooding. Increased wind loading concerns would also be alleviated.** **Positive effect: Reduced GHG emissions anticipated with reduced queuing of vehicles during normal operations.**

*Exact values would be vetted out at design level if chosen.

Table 2-5: Tabular summary of temporary construction impacts by alternative

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
Property Acquisition, Displacement, and Relocation	None	Temporary property acquisitions, displacements, or relocations.	Temporary property acquisitions, displacements, or relocations.	Temporary property acquisitions, displacements, or relocations.	None
Consistency with State, Regional, and Local Plans	None	None	None	None	None
Socioeconomics	None	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to parking and operation of water-based businesses.	Temporary disruption to operation of water-based businesses.
Traffic and Transportation	None	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.	Temporary increase in noise levels and disruption in normal traffic patterns.
Public Safety and Security	None	None	None	None	None
Visual and Aesthetics	None	Temporary change to the visual landscape.	Temporary change to the visual landscape.	Temporary change to the visual landscape.	Temporary change to the visual landscape.
Cultural Resources and Section 4(f)	None	Temporary use of a portion of 535 Riverside Avenue	Temporary use of a portion of 535 Riverside Avenue.	Temporary use of a portion of 535 Riverside Avenue.	Temporary use of a portion of 535 Riverside Avenue.
Water Resources and Water Quality	None	Additional impervious surface area and subsequent runoff associated with temporary bridge.	Additional impervious surface area and subsequent runoff associated with temporary bridge.	Additional impervious surface area and subsequent runoff associated with temporary bridge.	None
Navigable Waters	None	Temporary vertical clearance restriction, partial closures or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Temporary vertical clearance restriction, partial closures or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Temporary vertical clearance restriction, partial or full closures, or limited crossing times within the navigation channel impacting some marine travel and temporary removal or relocation of a floating private dock.	Would not require the construction of a temporary bridge; Short-term restrictions related to vertical clearance and short-term partial or full closure of the navigation channel.
Wetlands	None	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from temporary bridge and no permanent adverse impact is anticipated.	Temporary impact to some tidal wetlands and mudflat areas from more extensive marine enclosure containment and longer use of barges to facilitate construction. No permanent adverse impact is anticipated.
Floodplains	None	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.	Temporary barges and/or work trestles within the floodplain with no anticipated adverse impact to flood storage.
Coastal Resources	None	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.	Temporary encroachments on coastal resources.
Biological Environment – Flora and Fauna	None	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat habitat and subtidal estuarine waters.	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat	Potential temporary impact to upland, wetland, and tidal vegetation, as well as mudflat	Potential temporary impact to upland, wetland, and tidal vegetation.

Affected Environment	Alternative				
	No Build	**Conservation**	**Rehabilitation**	**On-Alignment Replacement (Preferred)**	**Off-Alignment Replacement**
			habitat and subtidal estuarine waters.	habitat and subtidal estuarine waters.	
Biological Environment – Threatened and Endangered Species	None	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species and temporary in-water impacts to subtidal and intertidal habitats.	Potential impacts to some aquatic listed species.
CEPA-Specific Impacts					
Climate Change and Sea Level Rise	None	Temporary increase in generation of GHG emissions	Temporary increase in generation of GHG emissions	Temporary increase in generation of GHG emissions	Temporary increase in generation of GHG emissions

le 2-6: Tabular summary of environmental commitments

Resources	Commitments	Reference Section
Air Quality	• Avoid or limit Temporary air quality emissions during construction through BMPs such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.	1.3.1
Hazardous Waste and Materials	• Conduct survey to determine the presence of lead-based paint or other potential hazardous materials, and implement proper measures for safe handling and disposal of such materials in accordance with CTDOT best management practices, standards, and specifications. • Comply with federal and state standards for hazardous materials handling. • Perform within the project area and/or adjacent ROW an additional study for any sites with known contamination issues in the vicinity of the project. • Develop a testing plan as the design progresses to assess soil and groundwater in any high-risk areas within which intrusive construction activities are proposed. Put remediation measures in place to mitigate potential impacts if contaminated soils or groundwater is confirmed by the testing. If needed, obtain registration under CTDEEP's General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer), and conduct soil management in accordance with the General Permit.	1.3.4
Noise and Vibration	• Comply with Section 1.10.05 "Construction Noise Pollution" of CTDOT's Standard Specifications for Roads, Bridges and Incidental Construction Form 819.	1.3.10
Property Acquisition, Displacement, and Relocation	• Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Conduct all property acquisitions, displacements and relocations in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Uniform Regulations of 2005.	3.1
Consistency with State, Regional, and Local Plans	• Work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource.	3.2
Socioeconomics	• Proactively communicate short-term restrictions of the navigation channel with the USCG and Westport Harbor Master. • Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Conduct all property acquisitions, displacements and relocations in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Uniform Regulations of 2005.	3.3
Traffic and Transportation	• Maintain traffic operations and proactively communicate off-peak lane closures. • Use maintenance and protection of traffic (MPT) measures and signage to ensure the safety of all modes of travel through the project site.	3.4
Public Safety and Security	• Use maintenance and protection of traffic (MPT) measures and signage to ensure the safety of all modes of travel through the project site. • Proactively communicate short-term restrictions of the navigation channel with the USCG and Westport Harbor Master and to mariners through signage, public notices or other means.	3.5
Visual and Aesthetics	• Implement avoidance, minimization, and mitigation measures as specified in the future MOA between FHWA, CTSHPO and CTDOT. • Work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource.	3.6
Cultural Resources	• Implement avoidance, minimization, and mitigation measures as specified in the future MOA between FHWA, CTSHPO and CTDOT. • Determine the need for temporary easements in consultation with property owners (as needed). • Work with property owners to determine fair compensation for any permanent loss (as needed). • Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses.	3.7

Section 4(f)	• Prior to approval of the Proposed Action that involves a use under Section 4(f), the FHWA must determine that there is no feasible and prudent avoidance alternative to the use of that property (as part of the Programmatic Section 4(f) Evaluation) and that the proposed project includes all feasible planning to minimize harm to the property resulting from its use. • Conduct a marketing effort to solicit interest in eligible offsite, adaptive reuse of the historic bridge trusses.	3.8
Water Resources and Water Quality	• Implement post-construction stormwater management provisions in accordance with the Construction General Permit, the Connecticut Stormwater Quality Manual, and the post-construction stormwater management requirements of the CTDOT Municipal Separate Storm Sewer System (MS4) General Permit and associated Department policies to the maximum extent practicable to mitigate any potential increases to current impairments. • Incorporate the requirements of the Construction Stormwater General Permit due to siltation/sedimentation impairment. Currently CTDOT does not have an overall watershed plan as part of their MS4 program, though they are progressing with the U.S. Geological Survey (USGS) to model their overall system to identify where specific retrofit projects are most effective. However, CTDOT does have requirements for individual construction projects to use Best Management Practices to reduce pollutants of concern which would be incorporated in the Project. • Minimize Potential construction-phase stormwater impacts through the implementation of a Stormwater Pollution Control Plan in accordance with the Construction General Permit, as well as adherence to Form 819, Section 1.10 Environmental Compliance, Required Best Management Practices (BMPs) and the Connecticut Guidelines for Soil Erosion and Sediment Control (as amended). • Implement soil erosion and sediment controls and other BMPs under the direction of CTDOT personnel. • Identify specific stormwater management and monitoring practices during Project design, including practices to mitigate sedimentation or siltation to the Saugatuck River. • Investigate temporary storm drainage collection systems, and stormwater pretreatment measures to improve water quality during design. • Plan preparers and monitors must possess the qualifications required by the permit and applicable local requirements.	3.9
Navigable Waters	• Implement proper construction staging to minimize impacts on navigable waters. • Determine the need for temporary easements and/or temporary relocation of the floating dock in consultation with property owners (as needed). • Work with property owners to determine fair compensation for any permanent loss (as needed). • Proactively coordinate short-term restrictions of the navigation channel with the USCG, USACE, CTDEEP, the Town of Westport (i.e., Harbormaster, Shellfish Commission) and other stakeholders.	3.10
Wetlands	• Undertake a detailed assessment of impacts during the design and permitting phase of the project, including an evaluation of avoidance and minimization techniques and potential mitigation measures. • Evaluate best management practices and measures to avoid and minimize impacts to wetland resources in consultation with federal, state, and local agencies including measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.	3.11
Floodplains	• Assess channels and embankments during design and address instabilities identified (or anecdotally provided) within the channel or along the embankments as part of final design. • Conduct a detailed assessment of potential impacts and identification of any necessary mitigation measures during the permitting process.	3.12
Coastal Resources	• Avoid and minimize impacts on coastal resources to the extent practicable through coordination with appropriate regulatory agencies and stakeholders, including CTDEEP.	3.13
Biological Environment	• Confirm NDDB mapping at six-month intervals during design. If any state listed species are documented within the Project Site prior to construction of the Project, consult CTDEEP and reinitiate NDDB process. • Continue to monitor NDDB and IPaC databases for new/updated listings of species that may occur within the Project Area and coordinate with CTDEEP and USFWS as required to address applicable state and federal requirements as design and construction progress. • Design and install erosion and sediment control measures to minimize runoff to water and wetland resource areas. • Incorporate BMPs identified in consultation with applicable regulatory authorities to minimize impacts from turbidity and noise to fish and other aquatic life. • Use noise attenuating tools, such as soft starts required by USACE and NMFS PRD, to avoid reaching noise levels that would cause injury or behavioral disturbance to sturgeon and sea turtles. • Conduct Essential Fish Habitat coordination and Endangered Species Act (ESA) Section 7 consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries as project design progresses. If in-water work is required during construction, installation of temporary protections may be required around resource areas. • Follow appropriate construction sequencing and water handling methods to reduce potential impacts associated with construction activities, in accordance with the Stormwater Pollution Prevention Plan for the project. • Time of year restrictions may be required as part of the permitting process for activities during construction to avoid and minimize impacts to fisheries. • Observe the following during the installation and removal of the temporary bridge and other in-water work to mitigate impacts to fisheries in compliance with CTDEEP Fisheries Division: ○ No unconfined in-water work from April 1 to June 30, inclusive.	3.14

	○ No loud construction-related activities such as jack hammering or hoe ramming after sunset or before sunrise from April 1 to June 30, inclusive. ○ Artificial lighting over the water is limited to navigation lights and any lighting typically required to operate the bridge during the spring migration period from April 1 to June 30, inclusive. • Undertake a detailed assessment of impacts and additional coordination with the applicable regulatory agencies during the design and permitting phase of the project, including an evaluation of avoidance and minimization techniques, and identification of potential mitigation measures.	
CEPA-Specific Commitments		
Climate Change and Sea Level Rise	• Avoid or limit Temporary air quality emissions during construction through BMPs such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.	3.15.1

3 Affected Environment and Environmental Consequences

This section evaluates the resources that would be impacted by the Proposed Action. It presents an evaluation of the potential impacts for all of the reasonable alternatives presented in Section 2. The resources evaluated include those that are required for compliance with Federal NEPA regulations and for State CEPA compliance. There is only one resource area that is subject to State CEPA compliance, Climate Change and Sea Level Rise, presented in Section 3.15.1. Climate Change and Sea Level Rise is not subject to oversight, review or approval by FHWA.

The following subsections summarize the background, regulatory context, existing conditions, and potential impacts related to the resources evaluated in this EA/EIE. Each summary of impacts is further broken down into the impacts associated with each of the alternatives evaluated in this EA/EIE.

3.1 Property Acquisition, Displacement, and Relocation

This section presents the context for potential property acquisitions, displacements, and relocations associated with each project alternative.

Regulatory Setting

The federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and its implementing regulations govern property acquisition and relocation procedures for federal and federally funded projects (Uniform Act, 1970; Uniform Regulations, 2005). The Uniform Act requires that people whose real property is acquired, or who move as a result of projects receiving federal funds, are treated fairly and receive just compensation for, and assistance in moving from, the property they occupy. The Uniform Act also establishes the requirements for relocation services, moving payments, replacement housing payments, and other payments related to commercial and residential moving costs and displacement.

Connecticut's Uniform Relocation Assistance Act establishes a uniform policy for the fair treatment of persons displaced by the acquisition of real property by state and local land acquisition programs (Uniform Relocation Assistance Act, 2008). The Uniform Relocation Assistance Act stipulates that all state agencies are authorized to comply with the federal Uniform Act to participate in a federal or federally assisted project or program. All acquisitions and easements acquired must be in accordance with the Uniform Act.

Methodology

The analysis that follows outlines anticipated property impacts associated with each alternative within the study area, including a 50-foot buffer for construction-related activity. Town of Westport Geographic Information System (GIS) mapping (Town of Westport, 2023b) and CTDOT ROW plans were used to determine parcel boundaries in the vicinity of the project, which were then overlain with the project elements associated with each alternative to determine potential property impacts.

Existing Conditions

There are residential properties bordering the project area on the east side of the river. On the west side of the river, there are both residential and commercial properties. The Westport Fire Station is also located on the west side of the river on Riverside Avenue between Bridge and Ketchum Streets.

Impacts

No Build Alternative

The No Build Alternative would not involve property acquisitions, displacements, or relocations.

Conservation Alternative, Rehabilitation Alternative, and **On-Alignment Replacement Alternative (Preferred Alternative)**

No permanent property impacts or permanent displacement of any residents or businesses are anticipated with these three alternatives.

All three alternatives would require temporary easements, involving residential and commercial properties immediately northeast and northwest of the bridge for the purpose of installing and removing a temporary bridge used during construction. One business on the west side of the river, north of Bridge Street, would be disrupted due to the temporary encroachment on the parking lot and driveway during construction. The recreational floating dock associated with the restaurant at the northeast corner of Bridge Street and Riverside Avenue would also need to be temporarily moved during the construction period to a different location out of the alignment of the temporary bridge.

Off-Alignment Replacement Alternative

Depending on the design, the Off-Alignment Replacement Alternative would require several permanent partial property takings to accommodate the new bridge alignment north of the existing bridge. Fewer than 10 permanent partial property takings are anticipated, as discussed during the public PAC meetings. These property takings would occur to the north and south of the bridge on both the east and west sides of the river. All these property takings are anticipated to be partial property takings; however, full property takings may occur depending on the design. If a property is rendered unusable due to the taking, the owner would be fairly compensated for this permanent loss.

Additionally, parking spaces would be permanently taken from the restaurant north of the Riverside Ave intersection to accommodate the lengthening of the Bridge Street westbound right-turn storage lane. One business on the west side of the river, north of Bridge Street, would be disrupted due to the permanent relocation of their driveway and reduced area for parking.
The proposed bridge alignment passes over a floating removable private dock situated directly northwest of the existing bridge. Permanent removal or relocation of this dock by the private property owner would be required under this alternative. Public access to the Saugatuck River would not be impacted as a result of the removal or relocation of this dock.

SUMMARY OF POTENTIAL IMPACTS

The No Build Alternative would not change existing conditions. The Conservation, Rehabilitation, and On-Alignment Replacement Alternatives would have parking relocation and temporary property impacts. The Off-Alignment Replacement Alternative would require fewer than 10 permanent partial property acquisitions, parking relocation impacts, and the removal or relocation of a floating private dock. Depending upon the alternative selected for the project, the need for temporary easements and/or temporary relocation of the floating dock would be determined in

consultation with property owners (as needed). Property owners would be fairly compensated as part of the project consistent with the federal and state policies cited above.

3.2 Consistency with State, Regional, and Local Plans

This section discusses the consistency of the alternatives with the overarching vision and goals articulated in state, regional, and local plans. The plans reviewed as part of this assessment included:

- State
  - 2025-2030 Conservation and Development Policies Plan[14] (also known as the State Plan of Conservation and Development or POCD) (OPM, 2025)
  - Connecticut's Statewide Long-Range Transportation Plan 2018-2050 (CDM Smith, 2018)

- Regional
  - South Western Region Metropolitan Planning Organization Long-Range Transportation Plan 2019-2045 (WestCOG, 2019)
  - WestCOG Regional Plan of Conservation and Development 2020-2030 (WestCOG, 2020)
  - WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026 (Milone & MacBroom, 2021)
  - WestCOG 2020 Hazard Mitigation Plan Update Municipal Annex for Westport, CT (Milone & MacBroom, 2019)

- Local
  - Town of Westport 2017 Plan of Conservation & Development (Planning and Zoning Commission, 2017)
  - Saugatuck – A Gateway for Westport: Saugatuck Transit Oriented Design Master Plan Report, March 2018 (BartonPartners, 2018)
  - Westport Downtown Plan (Downtown Plan Implementation Committee, 2015)

The plans agree on the overarching need for maintaining the state's infrastructure system, having a resilient infrastructure system, providing a safe transportation system for all users (i.e., motorized and non-motorized), and minimizing impacts on the environment. Local plans also identify preserving the Cribari Bridge as a goal. Consistence with Connecticut's approved coastal management program (Connecticut Coastal Management Act, 1979) is discussed in Section 3.13.

Regulatory Setting

CEPA requires an assessment of the project for its consistency with the State POCD and any other relevant state agency plans – in addition to applicable regional and municipal plans and pending projects when proposing an action (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019).

Methodology

The study area falls within three successively larger planning regions, namely the Town of Westport, the Southwest Region, and the State of Connecticut. The plans formulated at each level (state, regional, and local) articulate a vision,

[14] 2025-2030 State POCD was adopted on March 5, 2025 by the Connecticut General Assembly and is currently in effect.

goals, and objectives for future land use and/or the transportation system. Key relevant findings of policy and planning reports developed for these regions are summarized below, along with an assessment of the consistency of the alternatives with these planning documents.

Existing Conditions

2025-2030 Connecticut Conservation and Development Policies Plan

OPM is responsible for administering the State POCD, which is prepared every five years in accordance with CGS Sections 16a-24 – 16a-33 (OPM, 2025). CTDOT and OPM have established a programmatic approach for determining consistency with the State POCD for projects not likely to have a significant impact.

This type of bridge project is categorized as "Renovation for Safety, No Significant Capacity Improvements." Therefore, it is consistent with several of the targets included in the State POCD:

- *Thriving Economy Target: Improving transit services to provide convenient, reliable, safe, and competitive transportation choices*
- *Stewardship of Resources Target: Planning for and investing in the resilience of critical infrastructure, including transportation, communications, water, wastewater, and energy assets*
- *Stewardship of Resources Target: Preserving, protecting, and restoring historically, culturally, and architecturally significant sites, structures, landscapes, buildings, and objects, especially those underrepresented by traditional historic and cultural preservation practices*
- *Connected and Inclusive Communities Target: Prioritizing the maintenance, repair and replacement of existing transportation, sewer, water, stormwater, energy and other critical infrastructure*

This type of project constitutes an exemption to the definition of a Growth Related Project as defined in CGS Section 16a-35c, Item (2) Subsection (D), Subsection (i), "Projects for maintenance, repair, or renovations to existing facilities."

Connecticut's Statewide Long-Range Transportation Plan 2018-2050

Connecticut's Statewide Long-Range Transportation Plan 2018-2050 identifies needs for transportation infrastructure, including roadways and bridges, and states: "Many of the system's bridges, viaducts, and other structural components have reached the end of their useful lives and must be replaced. Failing to replace them will drive up the costs of annual maintenance, result in possible closures, and in the end, prove to be far more costly than replacing structural components at the appropriate time in their life-cycles" (CDM Smith, 2018).

South Western Region Long-Range Transportation Plan 2019-2045

The South Western Region Long-Range Transportation Plan (LRTP) 2019-2045 was adopted in 2019. The LRTP serves as the "blueprint" for transportation for the eight municipalities represented by the South Western Region Metropolitan Planning Organization (SWRMPO), which includes the Town of Westport. In developing the goals of the plan, the LRTP considers several factors, including increasing the safety and security of the transportation system for motorized and non-motorized users and supporting a state of good repair for transportation equipment and facilities, including bridges. The LRTP identifies strategies to increase the safety of the transportation system, including a focus on improving the safety of the traveling public through a program of engineering upgrades, enhanced use of technology, and improving the resiliency and reliability of the transportation system.

WestCOG Regional Plan of Conservation and Development 2020-2030

The 2020–2030 Western Connecticut Regional Plan of Conservation and Development was adopted by WestCOG on January 16, 2020. It presents challenges facing the region and identifies specific goals and objectives to address those challenges. The Plan notes that failure to keep road infrastructure elements, including locally maintained bridges, in working order may pose highway safety hazards, adversely affect traffic congestion, and impact the quality of stormwater discharges from roadways. Goals and policies related to infrastructure include the recommendation to "develop municipal and regional Transportation Asset Management Plans to guide municipal and state investments in the maintenance and rehabilitation of municipally owned transportation infrastructure" (WestCOG, 2020).

WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026

WestCOG's Hazard Mitigation Plan, adopted in 2021, identifies hazards impacting the Western Connecticut region and the goals, strategies, and actions to mitigate those hazards. The overarching strategies identified in the plan related to structural projects is to "elevate roads, bridges, and other infrastructure above the base flood elevation (BFE) and/or potential sea levels" (Milone & MacBroom, 2021).

WestCOG 2020 Hazard Mitigation Plan Update Municipal Annex for Westport, CT

The Westport Municipal Annex of the 2021 WestCOG Hazard Mitigation Plan does not provide mitigation strategies or actions specific to bridge infrastructure.

Town of Westport 2017 Plan of Conservation & Development

The Town's POCD identifies conservation-, development-, and infrastructure-related strategies to guide future growth and preservation in Westport. Goals in the Westport 2017 Plan of Conservation & Development include maintaining a safe and efficient roadway system and seeking to reduce traffic congestion and improving the facilities throughout Westport for pedestrians and cyclists. Westport's POCD highlights the importance of protecting and preserving the distinctive character, landscape, and historic value of the Saugatuck Center area. Preserving the Cribari Bridge is specifically called out as being important to Westport residents due to its historic significance and character.

Saugatuck – A Gateway for Westport: Saugatuck Transit Oriented Design Master Plan Report, March 2018

The Saugatuck Transit Oriented Design (TOD) Master Plan Report identifies existing conditions and acts as a guide for future development within the Saugatuck area. Design principles are established in the plan, which include the preservation of the Cribari Bridge's existing function and structure. A broader goal of the plan is to retain the historic character of Saugatuck.

Westport Downtown Plan

The Westport Downtown Plan builds off strategies and recommendations in previous downtown master plans, with a focus on the following key vision areas (e.g., Parking Lots Reinvention, Pedestrian Access, Maintenance, and Technology Upgrades). The plan acts as a strategy for addressing issues identified by residents and experts, while also maintaining and enhancing Westport's unique character.

Impacts

No Build Alternative and Conservation Alternatives

The No Build and Conservation Alternatives are consistent with the Town of Westport 2017 Plan of Conservation & Development because these alternatives maintain the existing bridge. The alternatives are also consistent with the Saugatuck Transit Oriented Design Master Plan Report because they preserve the function and structure of the bridge. These alternatives are partially consistent with the WestCOG Regional Plan of Conservation and Development 2020-2030 and the 2025-2030 Connecticut Conservation and Development Policies Plan. These alternatives are not consistent with the other reviewed plans that focus on providing safe and reliable transportation infrastructure, including Connecticut's Statewide Long-Range Transportation Plan 2018-2050, the South Western Region Long-Range Transportation Plan 2019-2045, and the WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026.

Rehabilitation Alternative

The Rehabilitation Alternative is consistent with the Town of Westport 2017 Plan of Conservation & Development and the Saugatuck Transit Oriented Design Master Plan Report, because it maintains the existing bridge, retaining the ornamental trusses contributing to the history of the area. The planned bridge improvements also make this alternative consistent with the plans that focus on providing safe and reliable transportation infrastructure, including Connecticut's Statewide Long-Range Transportation Plan 2018-2050 and the WestCOG Regional Plan of Conservation and Development 2020-2030. The Rehabilitation Alternative partially meets the South Western Region Long-Range Transportation Plan 2019-2045 goal to maintain a resilient transportation network, as this alternative would raise the bridge's mechanical equipment above the 100-year floodplain. The Rehabilitation Alternative also partially meets the 2025-2030 Connecticut Conservation and Development Policies Plan, and the WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026 strategy to elevate roads, bridges, and other infrastructure above the BFE. However, this action would only extend the resiliency of the bridge for 15 years.

On-Alignment Replacement Alternative (Preferred Alternative) and Off-Alignment Replacement Alternative

The Replacement Alternatives are consistent with the reviewed state and regional plans that focus on providing safe and reliable transportation infrastructure and maintaining it in good condition, including Connecticut's Statewide Long-Range Transportation Plan 2018-2050, and WestCOG Regional Plan of Conservation and Development 2020-2030. Both Replacement Alternatives meet the WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026 strategy to elevate roads, bridges, and other infrastructure above the BFE and/or potential sea levels. Furthermore, by raising the bridge out of the 100-year floodplain both Replacement Alternatives are consistent with the South Western Region Long-Range Transportation Plan 2019-2045 goal to maintain a resilient transportation network. The two replacement alternatives are partially consistent with the 2025-2030 Connecticut Conservation and Development Policies Plan. These two alternatives are inconsistent with the Town of Westport 2017 Plan of Conservation & Development, which aims to maintain the existing bridge. The Replacement Alternatives would be larger in size and scale than the existing bridge and would not incorporate the ornamental trusses expressed by the community as contributing to the history of the area. CTDOT would work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource. The Replacement Alternatives are partially inconsistent with the Saugatuck Transit Oriented Design Master Plan Report, as they preserve the function of the existing structure but not the structure itself.

SUMMARY OF CONSISTENCY DETERMINATION

The No Build and Conservation Alternatives are consistent with the local plans reviewed, partially consistent with the WestCOG Regional Plan of Conservation and Development 2020-2030, and are inconsistent with Connecticut's Statewide Long-Range Transportation Plan 2018-2050, the South Western Region Long-Range Transportation Plan 2019-2045, and the WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026. The Rehabilitation Alternative is consistent with the Town of Westport 2017 Plan of Conservation & Development, the Saugatuck Transit Oriented Design Master Plan Report, the WestCOG Regional Plan of Conservation and Development 2020-2030, and Connecticut's Statewide Long-Range Transportation Plan 2018-2050, and partially consistent with the South Western Region Long-Range Transportation Plan 2019-2045, and the WestCOG Multi-Jurisdiction Hazard Mitigation Plan 2021-2026. The On-Alignment and Off-Alignment Replacement Alternatives are consistent with the state and regional plans reviewed because of their focus on safe and reliable transportation infrastructure, but they are partially or fully inconsistent with the goal of keeping the existing bridge expressed in the local plans reviewed. Each of the alternatives are partially consistent with the 2025-2030 Connecticut Conservation and Development Policies Plan.

3.3 Socioeconomics

This section presents existing socioeconomic conditions within the study area and addresses changes to socioeconomic conditions associated with project alternatives. The following parameters of interest were qualitatively evaluated to characterize existing conditions and evaluate impacts:

- Proximity to businesses, neighborhoods, and recreational and community facilities
- Income, employment, and economic activity

Methodology

The study area for the socioeconomic analysis was defined as the portion of the Saugatuck that extends from the Cribari Bridge north to Treadwell Avenue, south to the Metro-North Railroad Station, east to Compo Road South, and west to Saugatuck Avenue (see Figure 3-1). This section of Westport includes populations likely to use this river crossing based on an understanding of the transportation network used by local residents, employees, patrons of businesses, and other visitors (e.g., recreational river users).

Information pertaining to socioeconomic conditions was obtained through the Town of Westport, WestCOG, the Connecticut Economic Resource Center (CERC), and the United States Census Bureau.

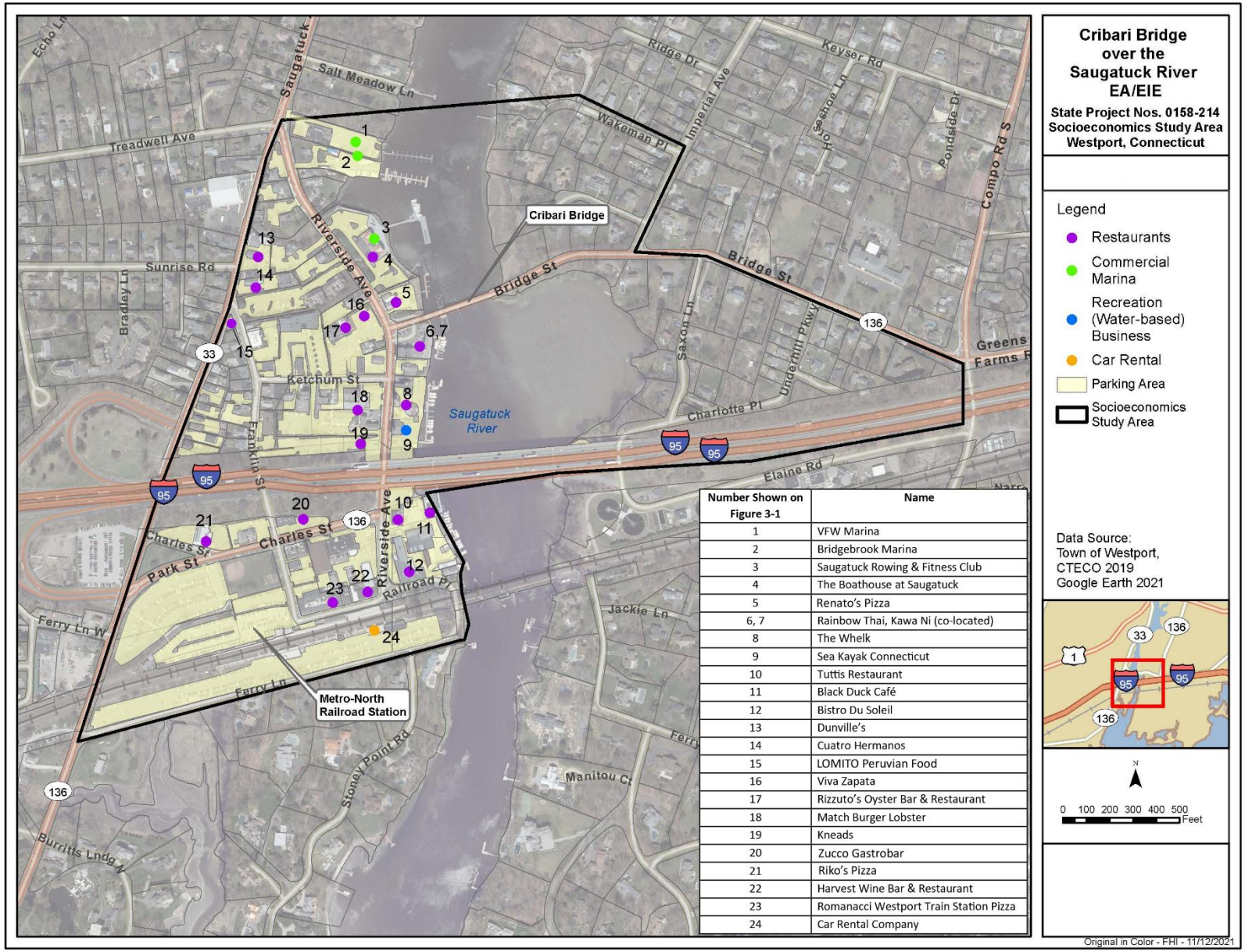
Existing Conditions

The 2021 American Community Survey 5-Year Estimates lists the Town of Westport's median household income at $236,892 (U.S. Census Bureau, 2021). According to data from the CERC 2021 Town Profile, the business/industry sectors that provided the greatest number of jobs in Westport were retail/trade (2,646), finance & insurance (2,281), health care & social assistance (1,609), accommodation & food services (1,524), and local government (1,522) (AdvanceCT & CT Data Collaborative, 2021). Major employers in Westport include Bridgewater Associates, First Equity Group Inc, Marriott Global Sales Office, Velocity Sports & Entertainment, and Greens Farms Academy. Note, the major employers identified in the CERC 2021 Town Profile are not located within the study area.

Businesses in the immediate vicinity of the bridge include restaurants (dine-in, take-out), bars, a gas station, a dry cleaner, liquor stores, a butcher shop, a daycare, and professional offices (see Table 3-1). As depicted in Figure 3-1, and as noted in the Saugatuck Transit Oriented Design Master Plan Report, there is more than an ample supply of parking in the study area. The Saugatuck Transit Oriented Design Master Plan Report noted that "the total number of existing parking spaces is adequate, with the major parking issues being proximity to destinations and ease of access" (BartonPartners, 2018). The Saugatuck Transit Oriented Design Master Plan Report offers recommendations for re-configuration of existing parking spaces within the project area, consistent with the Preferred Alternative. There are no transportation-vulnerable populations in the study area, and Westport has a higher than state average transit and bicycle/pedestrian use for commuting.

Table 3-1: Summary of Businesses (as of 2024)

Number Shown on Figure 3-1	Name
1	VFW Marina
2	Bridgebrook Marina
3	Saugatuck Rowing & Fitness Club
4	The Boathouse at Saugatuck
5	Renato's Pizza
6, 7	Rainbow Thai, Kawa Ni (co-located)
8	The Whelk
9	Sea Kayak Connecticut
10	Tuttis Restaurant
11	Black Duck Café
12	Bistro Du Soleil *(Currently Closed)*
13	Dunville's
14	Cuatro Hermanos
15	LOMITO Peruvian Food
16	Viva Zapata
17	Rizzuto's Oyster Bar & Restaurant
18	Match Burger Lobster
19	Kneads
20	Zucco Gastrobar
21	Riko's Pizza
22	Harvest Wine Bar & Restaurant
23	Romanacci Westport Train Station Pizza
24	Car Rental Company



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11	Black Duck Café
12	Bistro Du Soleil
13	Dunville's
14	Cuatro Hermanos
15	LOMITO Peruvian Food
16	Viva Zapata
17	Rizzuto's Oyster Bar & Restaurant
18	Match Burger Lobster
19	Kneads
20	Zucco Gastrobar
21	Riko's Pizza
22	Harvest Wine Bar & Restaurant
23	Romanacci Westport Train Station Pizza
24	Car Rental Company

Figure 3-1: Map of Socioeconomics Study Area

In addition to these land-based businesses and amenities, there are several water-based and/or water-dependent businesses that take advantage of the riverfront location, including a kayak shop, rowing/fitness club, and marinas. The Saugatuck River is economically important for these businesses and for restaurants with outside dining areas along the river. Although there are no land-based locations for commercial fishing operations in the study area, commercial fishing boats may be docked in this section of the river. Additionally, transplanting of shellfish in this area occurs annually. See Appendix K for a Summary of Research and Coordination Conducted on Saugatuck River Users. However, CTDEEP classifies this section of the Saugatuck River as "Prohibited"[15] for commercial shellfish harvesting. The Saugatuck River is also classified by the Town of Westport as "Closed" for recreational shellfishing (Town of Westport, 2008). The Town of Westport does not maintain maps of shellfish beds in the project area, but according to the Town of Westport Conservation Director and liaison to the Shellfish Commission, these are present north and south of the Cribari Bridge. Copps Island Oysters and Hummock Island Oysters are the primary businesses engaged in the transplanting of shellfish in the project area; these businesses have reported no issues with the marine vertical clearance of the Cribari Bridge for their operations.

According to the Town of Westport Harbormaster, the Veterans of Foreign Wars (VFW) marina and Saugatuck Rowing Club have reported that they generally do not have an issue with any of the vessels docked at their facilities fitting under the existing bridge. According to Bridgebrook Marina, bridge openings are required, especially during winter months, for the passage of construction equipment for dock repairs and for sailboats coming out of storage in spring and back into storage in autumn. A memorandum summarizing coordination (i.e., phone interviews, email correspondence) with river users is included in Appendix K.

The main Metro-North train station for Westport is located in Saugatuck, approximately ¼-mile to the south of the bridge on the west side of the river, and the main I-95 interchange providing access to Westport is also located in Saugatuck, approximately ¼-mile southwest of the bridge. See Section 3.4 for a detailed discussion of traffic patterns and transportation access to and from the Saugatuck area for businesses and employees, and the use of the Cribari Bridge for movement of people and goods.

Impacts

No Build Alternative

Under the No Build Alternative, there would be no changes in access to land-based, water-based, or water-dependent businesses in the area. Periodic flooding and maintenance required to keep the bridge operational would necessitate temporary closures of the bridge, which could affect businesses.

Conservation Alternative and Rehabilitation Alternative

Periodic flooding would continue to require temporary closures of the bridge, which could affect businesses in the area. One business on the west side of the river, north of Bridge Street, would be temporarily disrupted due to construction activities encroaching upon the parking lot and one of their driveways as a result of the temporary bridge.

[15] The CT DEEP definition of "Prohibited" is: "a classification used to identify a growing area where there has been no current sanitary survey or where a sanitary survey has found that the area is adjacent to a sewage treatment plant or other point source outfall with public health significance; pollution sources may unpredictably contaminate the growing area; the growing area is contaminated with fecal waste so that the shellfish may be vectors for disease microorganisms; and/or that the concentration of biotoxin is sufficient to cause a public health risk. Shellfish may not be harvested from Prohibited areas except for seed oystering or depletion of the areas." See: https://portal.ct.gov/DOAG/Aquaculture1/Aquaculture/Shellfish-Area-Classifications--Maps.

There would be minor impacts to water-based businesses, such as marinas, commercial shellfish operations, and recreational kayaking, during portions of the construction period. Movement of vessels associated with these water-based businesses and/or their customers could be restricted during periods of construction activity from barge-mounted cranes and floating work platforms. Patrons of these water-based businesses may seek to avoid the noise or other minor nuisances associated with construction activity. Vessels based outside the Saugatuck area but seeking to move through the area would also be limited or delayed for the same reasons. The recreational floating dock associated with the restaurant at the northeast corner of Bridge Street and Riverside Avenue would need to be temporarily moved during the construction period to a different location out of the alignment of the temporary bridge.

The fixed-span temporary bridge would not significantly impact water-based business activities, as most vessels would be able to pass under the minimum of 18 feet (NAVD88) vertical clearance from the mean low water (MLW) that would be provided.

On-Alignment Replacement Alternative (Preferred Alternative)

Ease of traffic movement would be improved through the area (for both land- and water-based businesses) due to the increased marine vertical clearance, the reduction in the number of bridge openings required, and the faster bridge openings (when openings are required). The bridge would be elevated above the 100-year floodplain, making it more resilient to flooding; this would result in fewer delays in travel through the area, which would beneficially impact businesses. The faster bridge openings and increased marine vertical clearance would also be beneficial for commercial shellfish operations and other water-based businesses that would have less delay in passage from one side of the bridge to another, making their operations more efficient.

One business on the west side of the river, north of Bridge Street, would be temporarily disrupted due to construction activities encroaching upon the parking lot and one of their driveways as a result of the temporary bridge. The construction period for the Replacement Alternatives would be longer than the Conservation Alternative and Rehabilitation Alternative. During the construction period (approximately two to three years), water-based businesses would be adversely impacted by short-term restrictions of the navigation channel. The recreational floating dock associated with the restaurant at the northeast corner of Bridge Street and Riverside Avenue would need to be temporarily moved during the construction period to a different location out of the alignment of the temporary bridge.

Off-Alignment Replacement Alternative

Similar benefits and impacts as described under the On-Alignment Replacement Alternative would be anticipated. One business on the west side of the river, north of Bridge Street, would be permanently impacted by the relocation of their driveway and reduced area for parking. During the construction period (approximately two to three years), water-based businesses would potentially be adversely impacted by short-term restrictions of the navigation channel.

See Section 3.1 for a detailed discussion of property impacts and Section 3.4 for a detailed discussion of impacts on traffic and transportation.

SUMMARY OF POTENTIAL IMPACTS

Under the No Build, Conservation, and Rehabilitation Alternatives, there would continue to be minor impacts to land-based businesses from temporary bridge closures due to periodic flooding. The Conservation and Rehabilitation Alternatives would have temporary construction period impacts due to channel restrictions, which could adversely

impact water-based businesses. Since the construction period would be longer under the On-Alignment and Off-Alignment Replacement Alternatives, the adverse impact would be more pronounced. Both On- and Off-Alignment Alternatives would improve traffic movement to land- and water-based businesses and reduce travel delays, beneficially affecting businesses. The On-Alignment Alternative would temporarily impact one business on the west side of the river, north of Bridge Street, due to the relocation of the parking lot and driveway. The Off-Alignment Alternative impact on the parking lot and driveway would be permanent. Depending upon the alternative selected for the project, short-term restrictions of the navigation channel would be proactively communicated with the USCG and Westport Harbor Master. The need for temporary easements and/or temporary relocation of the floating dock would be determined in consultation with property owners (as needed). Property owners would be fairly compensated as part of the project consistent with the federal and state policies.

3.4 Traffic and Transportation

This section describes roadways, traffic characteristics, pedestrian and bicycle facilities, and transit and public parking facilities at the Cribari Bridge and the potential effects of each of the project alternatives on these transportation facilities and travel patterns. Refer to Section 3.10 for a discussion of marine transportation.

Regulatory Setting

Pursuant to 23 USC 109(h) standards, FWHA follows guidelines designed to assure that possible adverse economic, social, and environmental effects related to any proposed federal-aid project have been considered. These guidelines are also designed to assure that final decisions are made in the best overall public interest, including that plans and specifications for proposed highway projects will adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability, and economy of maintenance. To support the regulations found at 23 CFR 771 (FHWA's Environmental Impact and Related Procedures), FWHA's Technical Advisory T 6640.8A provides guidance for preparing and processing environmental and Section 4(f) documents (Federal Highway Administration, 1987). The Technical Advisory also calls out specific guidance for the assessment and documentation of environmental consequences, including social impacts resulting from changes in travel patterns and accessibility (e.g., vehicular, commuter, bicycle, or pedestrian), impacts of alternatives on highway and traffic safety, and impacts on overall public safety (Federal Highway Administration, 1987).

CEPA requires a determination of whether an action may significantly affect the environment (CEPA Sec. 22a-1a-3(b)(11)), including a substantial increase in congestion (traffic, recreational, other) (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019). CTDOT's Complete Streets Policy (Policy No. EX.O.-31) establishes the Department's policy to consider "the needs of all users of all abilities and ages...in the planning, programming, design, construction, retrofit, and maintenance" of roads and streets in accordance with Public Act 940154 and Section 13a-153f(a)(d) of the Connecticut General Statutes (CTDOT, 2014). As a result, Complete Streets shall be considered in all projects receiving state or federal funding. In addition, CTDOT has established a Comprehensive Pedestrian Safety Strategy (CTDOT, 2021).

Methodology

Key transportation publications and guidance documents used to identify and evaluate existing safety and design deficiencies of the Cribari Bridge crossing of the Saugatuck River included the AASHTO Highway Safety Manual (AASHTO, 2010), the FHWA SNBI (Federal Highway Administration, 2022), and the CTDOT Highway Design Manual

(CTDOT, 2023b). The existing crossing was also evaluated with respect to compliance with the ADA for the design of pedestrian facilities in the public ROW (Federal Highway Administration, 2017).

Available mapping and information for area roadways, transit systems, and public parking supplies, in addition to online sources (e.g., Google Maps), were utilized for this evaluation and cited below. Also see Appendix H and its appendices for additional information and data informing the analysis.

Existing Conditions

Roadways

The Cribari Bridge is located along Route 136 in Westport, CT. Route 136 is a State Highway as defined by the Connecticut General Statues 13a (Highways and Bridges, 1963). The study area for the assessment of traffic and transportation effects (see Figure 3-2) includes state routes and local streets in the vicinity of the project and includes the intersections of Bridge Street with Riverside Avenue (Route 33) (approximately 170 feet from the west terminus of the bridge) and with Compo Road South (Route 136) (approximately 2,150 feet to the east of the bridge). The study area also includes Route 1 to the north where it traverses through downtown Westport. Route 1 is the next closest (within 1.5 miles) bridge carrying local traffic over the Saugatuck River. State Route 136 is a two-lane minor arterial (one lane in each direction) that traverses in the north-south direction from the town line of Norwalk to Bridge Street and then traverses in the east-west direction on Bridge Street between Riverside Avenue and Compo Road South where it changes direction to the north. Route 136 intersects with Route 1 approximately 1.25 miles to the north of the Bridge Street/Compo Road South intersection. Riverside Avenue is a two-lane minor arterial and is designated as Route 136 to the south of Bridge Street. The segment of Riverside Avenue between Bridge Street north to Route 33 (and ultimately Route 1) is classified as a collector roadway. Interstate-95 (I-95), located approximately 650 feet south of the Cribari Bridge, carries large volumes of interstate traffic over the Saugatuck River.

Traffic Flow and Operations

Traffic counts and peak hour key turning movement counts were collected and analyzed as part of a traffic impact study of key intersections (see Figure 3-2) in the study area (Close, 2016). As reported in the Traffic Study, traffic volumes on Bridge Street range from 11,300 to 13,100 vehicles per day, with peak hourly volumes ranging from 1,060 to 1,260 vehicles during the morning peak hour and approximately 940 to 1,310 vehicles during the evening peak hour. Riverside Avenue experiences daily traffic volumes ranging from 7,500 vehicles north of Bridge Street to 11,400 vehicles south of Bridge Street. Peak hourly volumes on Riverside Avenue just north and south of Bridge Street range from 610 to 1,010 vehicles during the morning peak hour and 680 to 1,050 vehicles during the evening peak hour.[16]

Intersections most likely to be affected by the proposed alternatives include:

- Bridge Street and Riverside Avenue
- Bridge Street and Imperial Avenue
- Bridge Street and Compo Road South

[16] The most recent traffic volume data collected in the area is available at the CTDOT Traffic Monitoring Station Viewer and indicates that traffic volumes in the vicinity of the Cribari Bridge have remained consistent at those locations since the data collection performed by CJM (Close, 2016).

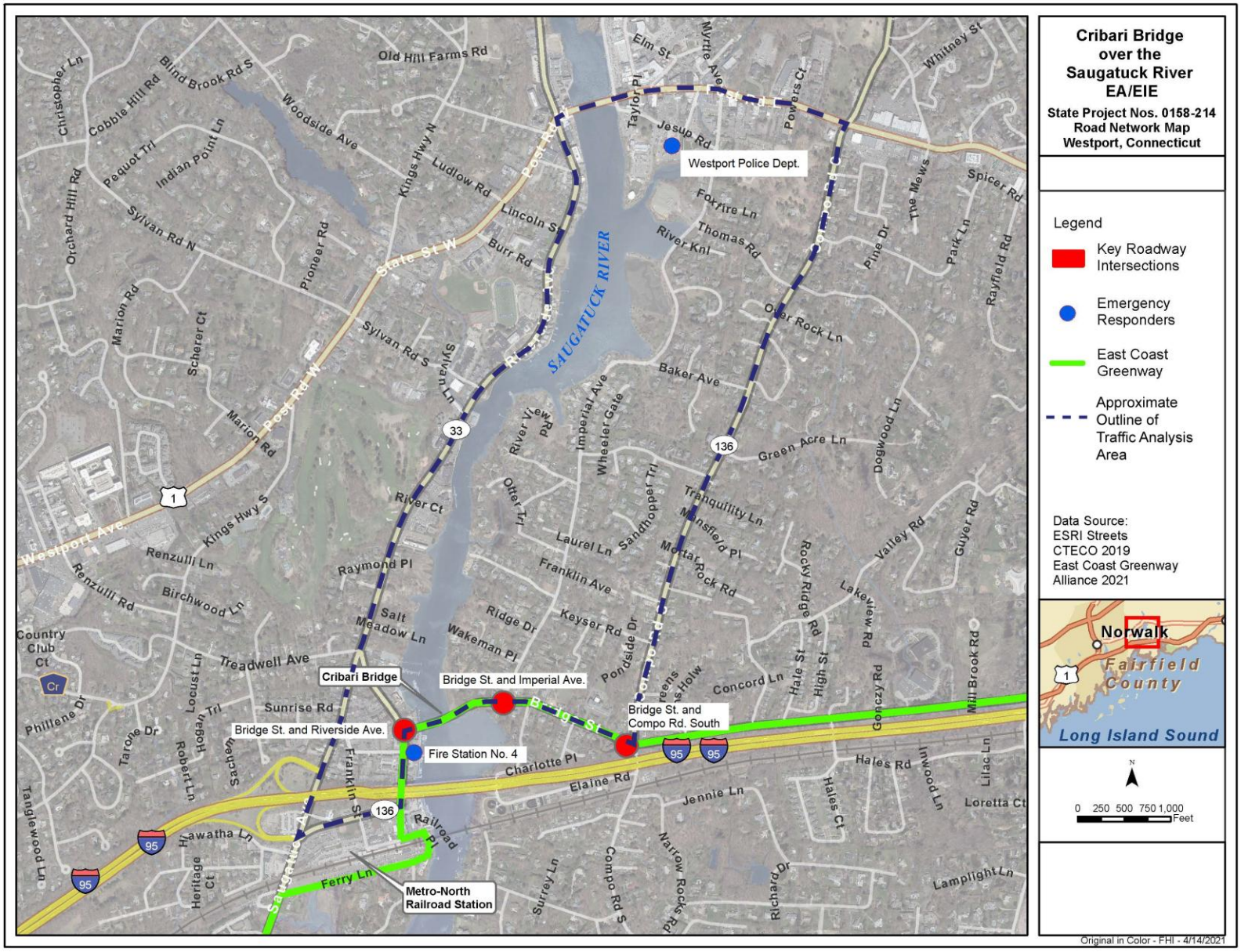

Figure 3-2: Map of Traffic and Transportation Study Area

Based on analysis provided in the Traffic Study, the signalized intersection of Bridge Street with Riverside Avenue operates at Level of Service (LOS) E during the morning peak hour and LOS B during the evening peak hour (Close, 2016).[17] The westbound shared through-left turn movement on Bridge Street operates at LOS F and is the only critical movement at the intersection that operates poorly. The average queue length for the westbound right-turn lane exceeds the available storage length during the morning and evening peak hours. The intersection of Bridge Street with Compo Road South operates at acceptable levels, LOS C during the morning peak hour and LOS B during the evening peak hour. The posted speed limit on the Cribari Bridge along Bridge Street is 25 mph. This speed limit, the adjacency of the Riverside Avenue/Bridge Street signalized intersection 200 feet west of the western bridge abutment, and the narrow lane widths on the existing bridge typically result in reduced traffic speeds (i.e., calm traffic) through the project area.

When the bridge approach roadways are closed to allow for marine vessel passage, roadway travelers typically experience a 20-minute delay for the full operation (opening and closing) of the bridge and additional delay associated with subsequent clearing of resultant traffic queues. Also, additional traffic delays occur for periodic maintenance and repairs of the bridge's mechanical/electrical system and due to storm damage to those elements. During the period 2018-2020, there were four major maintenance/repair events performed on the Cribari Bridge.

Pedestrian and Bicycle Facilities

The Cribari Bridge provides an approximately four-foot-wide timber sidewalk along its north side. There are shoulders on both approaches leading up to the bridge, but there is no shoulder or bike lane on the existing bridge. Sidewalks are provided along both sides of Riverside Avenue and serve the residences and businesses. Signalized intersections along Riverside Avenue provide crosswalks and pedestrian buttons. A sidewalk on the north side of Bridge Street is provided east of the bridge and serves the local neighborhoods. However, the existing timber sidewalk on the bridge is not compliant with the ADA, providing insufficient width across the bridge.

According to the Connecticut Active Transportation Plan, Route 136 is designated as an on-road bicycle facility from the Norwalk town line northward to Bridge Street then east on Bridge Street towards Southport and the town line of Fairfield (CTDOT, 2019). The plan identifies Route 136 from the Norwalk town line traversing north to Bridge Street then across the bridge to Compo Road South and connecting with Westport Longshore Club Park and Sherwood Island State Park as an on-road bicycle/multi-use trail improvement project.

The Cribari Bridge and its approaches are part of the ECG, an approximately 3,000-mile walking and bicycling route that runs from Maine to Florida, consisting of on-road routes, paved and unpaved trails, and transit or ferry links (East Coast Greenway Alliance, n.d.). The ECG Alliance leads the development of the trail network, working with volunteers, partner agencies, and officials at the local, state, regional, and national levels. Its vision is for a continuous traffic-free route along the entire 3,000-mile ECG. Approximately, two hundred miles of the ECG run through Connecticut. The route through the project area is part of the on-road section that runs southwest of New Haven to the New York state line, which crosses over the Cribari Bridge. Bicyclists currently traverse the bridge in the travel lane or utilize the timber sidewalk due to the lack of shoulders or bicycle lanes to separate them from motorized vehicles.

[17] LOS of an intersection is a measure of the delay experienced by vehicles at the intersection and is used to describe the operation of signalized and unsignalized intersections. It is expressed in an alphabetic scale, A to F. Level of Service A represents clear traffic flow and the best conditions. Level of Service F represents severely congested flow and is considered to be unacceptable. Intersections with long delay times at LOS E or F are less acceptable to most drivers.

Transit Facilities

The current substandard roadway geometry, safety measures, and mechanical/electrical system impact the safe passage of transit vehicles across the bridge by not allowing them to safely traverse the bridge with other large vehicles traversing in the opposite direction. Wheels 2U Westport is an on-demand shared-ride shuttle service, operated by Norwalk Transit District in partnership with Westport Transit District. The S4 Shuttle operates weekdays mornings (5:45 AM – 10:00 AM) and afternoons (4:00 PM – 9:30 PM) to and from the Saugatuck (Westport) and Greens Farms rail stations (Wheels 2U Westport, n.d.). The shuttle service area includes Riverside Avenue, Hills Point Road, Compo Road, and Bridge Street.

Impacts

No Build Alternative

Without any substantive structural improvements to the bridge or improvements to approach roadways or study area intersections, traffic would continue to operate under existing conditions. There would be no improvements for pedestrian or bicyclist travelers using the bridge along this segment of the interstate ECG. There would be no improvement in ADA compliance. Challenges to the safe operation of transit buses described above would remain. Overall traffic at the intersection of Bridge Street with Riverside Avenue would continue to operate poorly (LOS E) during the morning peak hour (Close, 2016). Therefore, all transportation-related operational and safety issues described under the existing conditions section would remain, or worsen, in the event of further load restrictions.

The anticipated increased frequency of maintenance and repair projects to keep the bridge in a serviceable condition would adversely impact bridge users. Temporary traffic restrictions or closures would be required based on the level of work necessary for maintenance tasks.

Conservation Alternative

Under the Conservation Alternative, the roadway geometry and safety measures along the bridge would continue to be substandard (e.g., roadway lane and shoulder widths, bridge guardrail, and barrier system for bridge openings would be unchanged), and the existing risk for collision damage to the guardrail and vertical truss members would remain. The pedestrian and bicycle facilities would also not be improved, with no enhancement being made to Westport's segment of the interstate ECG, or improvements for ADA compliance. Repairs to the members supporting the electrical box would slightly increase vertical clearance height, and strengthening of the piers would address the load restriction.

Traffic operations at the intersection of Bridge Street with Riverside Avenue would improve (see Appendix G of Appendix H). These would be accomplished by introducing signal phase improvements and lengthening the westbound right turn storage lane at the intersection of Bridge Street from 55 feet to approximately 105 feet. Vehicles turning right from Bridge Street onto Riverside Avenue would have additional storage and passage (right turn on red), allowing four vehicles (two more vehicles compared to the existing condition) to queue in the lane. The overall intersection LOS would improve from LOS E to LOS C during the morning peak hour. During the evening peak hour, operations would remain at LOS B but experience a reduction in travel delays. Impacts on traffic flow would also occur in the event of damage to the mechanical system (e.g., as a result of a storm event). For example, following Hurricane Sandy in 2010, repairs were completed nearly 6 months later. Traffic delays from bridge opening/closing cycles would

be similar to those experienced under the No Build Alternative, with a slight improvement to clearing of queues from intersection operational improvements discussed above. There would be no increase in the posted speed limit.

Existing traffic operations would be maintained during the majority of construction through the use of the temporary bridge. Off-peak lane closures would be needed at times to safely conduct certain construction activities. Access to nearby properties would be maintained. Potential temporary traffic impacts would occur periodically over the anticipated two- to three-year construction duration. There would be no traffic delays to accommodate marine travel since the temporary fixed span bridge would not open or close for marine travel.

Rehabilitation Alternative

Impacts to traffic and transportation under the Rehabilitation Alternative would be similar to the Conservation Alternative. Signal phase improvements and lengthening the westbound right turn storage lane at the intersection of Bridge Street from 55 feet to approximately 105 feet would provide some benefit to traffic flow operations. The intersection would operate well at LOS C during the morning peak hour and LOS B during the evening peak hour. Additionally, traffic delays during bridge opening and closing cycles would also be similar in duration to the Conservation Alternative.

This alternative would increase the vertical height clearance and include additional safety measures described below. Widening the trusses would move the electrical box outside of the vertical clear zone; it would no longer be a controlling factor for the vertical clearance. Strengthening the piers would address the load restriction. The public has expressed concerns about additional truck traffic on local roads at public meetings and PAC meetings associated with this project (See Appendix I) because of these reduced load restrictions. Despite these improvements, the Rehabilitation Alternative and both Replacement Alternatives are not anticipated to generate new or additional truck traffic to and through the area. Since there are no improvements to the surrounding local roadway network beyond the immediate project area, truck drivers are more apt to continue to use I-95 or Route 1 to cross the Saugatuck River. In addition, the Town of Westport is able to impose limitations on truck traffic on its local roads. The roadway geometry and safety measures along the bridge would continue to be substandard in terms of travel lanes and shoulder widths. Widening of the bridge trusses and the installation of a MASH-compliant guardrail and a new solid barrier system for bridge openings would alleviate some of the safety concerns described in the Purpose and Need (see Section 0.2). Specifically, safety improvements would include:

- A MASH-compliant guardrail would meet the current requirements for FHWA
- The repair and widening of the bridge trusses to prevent impact damage to the truss by placing it behind the new guardrail system
- The new barrier system at the bridge approaches to prevent errant vehicles from using the bridge during openings

On-Alignment Replacement Alternative (Preferred Alternative)

The increased width of the travel lanes and new shoulders on the bridge (in accordance with current design requirements) would improve maneuverability for all vehicles (including emergency vehicles and buses) and reduce the potential for low-speed crashes (i.e., vehicle sideswipes and/or impacts with the truss) that occur under the existing condition. As noted above in the discussion of the Rehabilitation Alternative, the public has expressed concerns about additional truck traffic on local roads at public meetings and PAC meetings associated with this project (See Appendix I). However, the proposed improvements are not anticipated to generate new or additional truck traffic

to and through the area. Since there are no improvements to the surrounding local roadway network beyond the immediate project area, truck drivers are more apt to continue to use I-95 or Route 1 to cross the Saugatuck River. In addition, the Town of Westport can take the additional action of imposing limitations on truck traffic along its local roads.

The new shoulders in each direction across the bridge could be used as bike lanes for cyclists to safely traverse the bridge. While this section accounts for only a small portion of the ECG, the wider roadway would provide for improved mobility and safer passage for cyclists crossing the Saugatuck River over existing conditions, where the lane narrows for all users (i.e., motorized vehicles and bicyclists) across the bridge. This alternative would not preclude future improvements, such as wider shoulders and sidewalks on the approach roadways, enhancing Westport and the ECG. The new shoulder on the bridge would also provide space for inoperable vehicles to move out of the travel lane so as not to disrupt traffic flow – an additional safety benefit. Pedestrian safety would be improved with a widened sidewalk along the north side of the bridge, which would also be ADA-compliant, allowing sufficient space for disabled persons to cross the bridge.

Like the Conservation and Rehabilitation Alternatives, signal phase improvements and lengthening the westbound right turn storage lane at the intersection of Bridge Street and Riverside Avenue from 55 feet to approximately 105 feet would provide some benefit to traffic flow operations. Traffic operations at the intersection of Bridge Street with Riverside Avenue would operate well at LOS C during the morning peak hour and LOS B during the evening peak hour.

A new mechanical and electrical system would improve traffic flow and operations by decreasing travel delays when the bridge is open to accommodate marine passage. The full operational cycle (opening and closing) of the bridge would be approximately 8 minutes long; a reduction compared to the existing 20-minute cycle. The reduced operational cycle would likely result in substantially reduced traffic queue delays, as fewer vehicles would accumulate during this shorter timeframe. Also, the additional clearance (height beneath the bridge) associated with the Preferred Alternative will likely reduce the number of bridge openings needed to accommodate marine passage, therefore reducing traffic queue delays.

The proposed new mechanical and electrical equipment would also be located at a higher elevation and therefore less vulnerable to flooding, potentially reducing the frequency of extensive traffic delays for maintenance and repairs.

A MASH-compliant guardrail and solid barrier system would be installed on the replacement bridge in accordance with current design requirements and would protect errant drivers while traversing the bridge and when the bridge is closed for marine passage, respectively. Impacts during construction would be similar to those described above for the Conservation and Rehabilitation Alternatives. The notable difference from these alternatives would be the longer construction duration required to perform the full bridge replacement.

Off-Alignment Replacement Alternative

Beneficial impacts on traffic and transportation conditions would be the same as those listed above under the On-Alignment Replacement Alternative (see Table 3-2 below).

During the construction period, traffic operations would be maintained along the existing bridge. Off-peak lane closures might be needed at times to safely conduct certain construction activities, intermittently over the anticipated three-year construction duration, and primarily during the transfer of traffic from the existing alignment to the new alignment. Off-peak lane closures would be proactively communicated.

SUMMARY OF POTENTIAL IMPACTS

As summarized in Table 3-2, the No Build Alternative would not change existing conditions, and transportation-related operational and safety issues would remain or worsen. The Conservation Alternative would improve traffic operations at the Bridge Street intersections but would not change the existing substandard roadway geometry and safety measures along the bridge. The Rehabilitation Alternative would have similar impacts in terms of substandard roadway geometry and would also have beneficial impacts from increased vertical clearance and some additional safety measures. For the No Build, Conservation, and Rehabilitation alternatives, temporary impacts to traffic operations during the construction period would be minimal. The On-Alignment and Off-Alignment Replacement Alternatives would improve transportation-related operational and safety conditions, decrease travel delays related to bridge openings and repairs, and improve traffic operations at the Bridge Street intersections. The temporary construction impacts on traffic operations would be minimal, although the construction duration would be longer than the other alternatives. Depending upon the alternative selected for the project, traffic operations and access to nearby properties would be maintained, off-peak lane closures would be proactively communicated, and maintenance and protection of traffic (MPT) measures and signage would be used to ensure the safety of all modes of travel through the project site.

3.5 Public Safety and Security

This section presents an overview of existing emergency services, lighting, and marine vessel safety and security conditions at the project site and addresses safety and security associated with project alternatives for all users. For vehicular, bicycle, and pedestrian safety, refer to Section 3.4 of this EA/EIE.

Regulatory Setting

Pursuant to 33 CFR 160 et seq., the USCG is responsible for enforcing federal laws to ensure the safety of marine vessels and waterfront facilities and the protection of navigable waters, including the Saugatuck River (Ports and Waterways Safety, 1983). The USACE also has a role in ensuring structures over navigable waters are safe (Rivers and Harbors Act, 1899). The USACE role is further discussed in Section 3.9 of this EA/EIE. The Town of Westport is responsible for emergency services in the project area. The Town of Westport's Harbor Master is responsible for general care, supervision, and safe, efficient operation of moorings, harbors, and navigable waterways under local jurisdiction (Town of Westport, 2023a). The Town of Westport Police Department's Marine Division and the Harbor Master enforce state boating regulations (Boating Regulations, 2013).

It is the mission of CTDOT to provide a safe and efficient intermodal transportation network that improves the quality of life and promotes economic vitality for the state and region. CTDOT is therefore responsible for maintaining all state/federal roadways, bicycle, and pedestrian facilities, and transportation infrastructure (including the Cribari Bridge) in a safe condition for use by the traveling public.

Methodology

In addition to marine safety, lighting, and security at the existing crossing, the surrounding area was evaluated to identify the presence of community safety and emergency response infrastructure, including police, fire department, and ambulance services. The study area for marine safety, lighting, and security was defined by the 50-foot construction envelope for the Proposed Action. The nearest emergency response facilities (police station and fire

station) were also identified and added to the study area since emergency response to incidents occurring at or near the bridge is most likely to come from those facilities in closest proximity to the bridge (see Figure 3-2).

Table 3-2: Summary Comparison of Transportation-Related Effects

Transportation-Related Topic	No Build Alternative	Conservation Alternative	Rehabilitation Alternative	On-Alignment Replacement (Preferred Alternative)	Off-Alignment Replacement
ADA-compliant sidewalk	No	No	Yes	Yes	Yes
Accommodates safe bicycle travel	No	No	Yes	Yes	Yes
Travel delay for bridge opening	~20 minutes	~20 minutes	~20 minutes	Reduced to ~8 minutes	Reduced to ~8 minutes
Guardrails and safety barriers	Substandard	Substandard	Meets Standards	Meets Standards	Meets Standards
Roadway geometry	Substandard	Substandard	Substandard	Meets Standards	Meets Standards
Level of Service at Bridge and Riverside intersection (peak AM/PM hour)	E/B	C/B	C/B	C/B	C/B
Electrical/mechanical vulnerability	Existing and likely to increase	Slightly reduced compared to existing	Slightly reduced compared to existing	Reduced compared to existing	Reduced compared to existing
Length of construction period	Not applicable	2-3 years	2-3 years	3 years	3 years

Existing Conditions

Community Safety Facilities

The Westport Police Department, along with the Town's volunteer emergency medical services, is located at 50 Jesup Road, approximately 1.25 miles north of the Cribari Bridge on the east side of the Saugatuck River. Access is provided from Route 1 to Riverside Avenue or Route 1 to Route 136. The Westport Fire Station #4 is located on the west side of the bridge, just south of the Bridge Street and Riverside Avenue intersection. This station is expected to respond to emergencies on both sides of the river within its response area, despite the deteriorating condition and narrowness of the Cribari Bridge.

Lighting

There are no streetlamps/utility poles on the existing bridge to illuminate the bridge deck. There is decorative Christmas lighting on the truss, which only illuminates the bridge, not the deck. The developed area west of the bridge is sufficiently illuminated by both streetlamps and lights on nearby buildings. This lighting enhances visibility during nighttime or inclement weather and provides a feeling of safety for both motorists and pedestrians. To the east, utility poles with streetlamps begin approximately 300 feet east of the bridge on the north side of Bridge Street and continue eastward along Bridge Street.

Marine Safety and Security

The bridge is equipped with navigational lighting as required by the USCG to aid safe vessel passage and a fender system to protect the bridge piers from vessel collisions (Bridge Lighting and Other Signals, 1975). Westport Fire and Police Department vessels are capable of traversing beneath the existing bridge without the need for a bridge opening.

Crash History

Crash data was obtained from the Connecticut Transportation Institute at the University of Connecticut (UConn) for the period January 1, 2015 to June 1, 2023. The crash data repository includes those crashes that have been reported with a formal police report by local or state police. Unreported crashes that may have occurred during this time period are not included in this dataset. Additionally, a National Highway Traffic Safety Administration (NHTSA) study found that crashes that only result in property damage and those that include only a single vehicle tend to be underreported versus typical crashes involving multiple vehicles and those that may be more severe and result in injuries (Blincoe, 2015).

The crash data evaluation considered the crashes occurring on the bridge and consisted of the following:

1. Multi-vehicle angle or sideswipe crash that occurred on the bridge between oncoming vehicles
2. Single-vehicle crash between a vehicle and part of the bridge structure and/or guardrails (fixed object)

There was a total of ten (10) target crashes during the 2015-2023 time period. Table 3-3 below shows the type of crashes and whether property damage or injuries occurred.

Table 3-3: On-Bridge Crashes Occurring from 1/1/2015 to 6/1/2023

Crash Type	Number of Crashes Resulting in Injury of Any Type (Serious, Minor, Possible)	Number of Crashes Resulting in Property Damage Only	Number of Crashes Resulting in Fatality	Total
Angle	0	1	0	1
Sideswipe, opposite direction	2	3	0	5
Fixed Object	1	2	0	3
Other	0	1	0	1
Total	3	7	0	10

Impacts

No Build Alternative

Under the No Build Alternative, no changes to the existing condition would occur. The Westport Fire Department Station #4 would continue to respond to emergencies on both sides of the river within its response area, despite the deteriorating condition and perceived narrowness of the Cribari Bridge. Navigational safety would remain unchanged.

Conservation Alternative

Repairs to the substructure would not include the widening of the travel lanes. Like the No Build Alternative, fire engines would continue to respond to emergencies on both sides of the river, despite the perceived narrowness of the Cribari Bridge. Navigational safety would remain unchanged.

During construction, maintenance, and protection of traffic (MPT) measures and signage would be employed to ensure the safety of all modes of travel through the project site. Navigational channel restrictions due to work barge placement or other construction-related activities would be communicated to the USCG and Westport Harbor Master and subsequently to mariners either through signage, public notices, or other means. Knowledge of these channel restrictions would aid in response planning in the event of a boating-related emergency. These notices would be required for any maintenance- or construction-related channel closures or partial obstructions regardless of the alternative.

Rehabilitation Alternative

The spreading of the trusses would give the perception of a wider travel lane, although no actual change in lane width would occur. The existing navigation channel width would be reduced by two feet (from fifty feet to forty-eight feet) when the bridge is in an open position. This reduction would require continued discussion and coordination with the USCG to ensure safe vessel passage. The existing fender system would also be replaced, affording greater protection of bridge piers from vessel collisions.

As described above under the Conservation Alternative, MPT and signage would be employed during the construction period, and navigation channel restrictions would be coordinated as appropriate.

On-Alignment Replacement Alternative (Preferred Alternative) and Off-Alignment Replacement Alternative

Under the Replacement Alternatives, wider travel lanes and shoulders would enhance mobility for emergency responders, including fire engines. The Replacement Alternatives would also include an ADA-compliant sidewalk, improving pedestrian mobility across the bridge. See Section 3.4 for existing conditions of pedestrian facilities.

The crash analysis concluded that multi-vehicle sideswipe crashes and single-vehicle fixed object crashes would likely be mitigated through either replacement scenario due to the wider travel lanes and shoulders. Construction safety measures would be the same as described above under all alternatives.

SUMMARY OF POTENTIAL IMPACTS

The No Build, Conservation, and Rehabilitation Alternatives would not change existing public safety and security conditions. The On-Alignment Replacement and Off-Alignment Replacement Alternatives would enhance mobility for emergency responders. The Replacement Alternatives would also include an ADA-compliant sidewalk. Under all the alternatives, emergency vehicles would continue to use the bridge to respond to incidents and safe passage for marine vessels would continue. Depending upon the alternative selected for the project, MPT measures and signage would be used to ensure the safety of all modes of travel through the project site, and short-term restrictions of the navigation channel would be proactively communicated with the USCG and Westport Harbor Master and to mariners through signage, public notices or other means. These notices are required for any maintenance or construction-related channel closures or partial obstructions for all alternatives.

3.6 Visual and Aesthetics

This section describes the existing visual environment and addresses changes to visual quality associated with project alternatives. The complete Visual Impact Assessment (VIA), along with visualizations of the alternatives and representative photographs of various bridge types, are included in Appendix G. The findings of the VIA are summarized below.

Regulatory Setting

NEPA establishes that the federal government use all practicable means to ensure all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (National Environmental Policy Act, 1970). To further emphasize this point, FHWA, in its implementation of NEPA (Fixing America's Surface Transportation Act, 1970), directs that final decisions on projects are to be made in the best overall public interest considering adverse environmental impacts, including among others, the destruction or disruption of aesthetic values. Similarly, CEPA requires the lead state agency perform an evaluation of "substantial aesthetic or visual effects" of a proposed action (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019).

Methodology

The VIA accomplished the following:

- Identified the Area of Visual Effect (AVE), which is the area in which views of the project would be visible as influenced by the presence or absence of intervening topography, vegetation, and structures
- Defined the existing visual resources and landscape units within the AVE

- Identified the viewer groups and their typical viewpoint locations of the bridge
- Identified community goals for visual quality
- Identified the visual quality of viewsheds from the landscape units
- Evaluated the impact on visual quality for each proposed project alternative on each viewer group
- Predicted viewer responses to changes in visual quality

The AVE for the project is depicted in Figure 3-3. The AVE generally extends from bends in the Saugatuck River to the north and south, and the tree/building line on the east and west.

Aerial imagery, topographic and digital terrain model mapping, and street views were reviewed to develop a preliminary understanding of landforms, water bodies, and land use, and to identify areas to carefully examine in the field. Multiple field visits were conducted to identify the AVE and to photo-document the visual setting and key views (see Appendix G).

Visual impacts were determined by assessing changes in the visual quality of viewsheds from the perspective of seven landscape unit/key view combinations and then predicting each viewer group's response to that change. All changes were considered from the perspective of the viewer groups and their sensitivity to the visual environment. The VIA in Appendix G includes photographs of existing conditions and visualizations of the alternatives from these seven key views. As described in Appendix G, the alternatives were evaluated relative to project coherence, i.e., "when viewing the project environment, viewers evaluate the coherence of the project components, determining if the project's composition is coherent or incoherent" (Federal Highway Administration, 2015).

Existing Conditions

As described within the VIA, Cribari Bridge is located within the Saugatuck River Watershed in the coastal slope and lowlands of Fairfield County, Connecticut. The topography along the banks of the river north and south of the bridge is relatively level, particularly on the west and southeast banks. There are intermittent bedrock outcrops along the riverbank, northeast of the bridge. On the eastern bank of the river, saltwater marshes with low-lying vegetation lie north and south of Bridge Street, which give way to a tree line. Mature hardwoods, as well as shrubs, vines, and other vegetation, partially obscure views of the bridge. With the exception of street trees, shrubs, and other planted vegetation (e.g., arborvitaes), there is little plant life on the west bank of the river immediately north and south of the bridge. Along the eastern bank of the river, further to the north, there are additional stretches of marsh, which give way to mature trees and other vegetation, similar in character to those along the southern portions of the east bank.

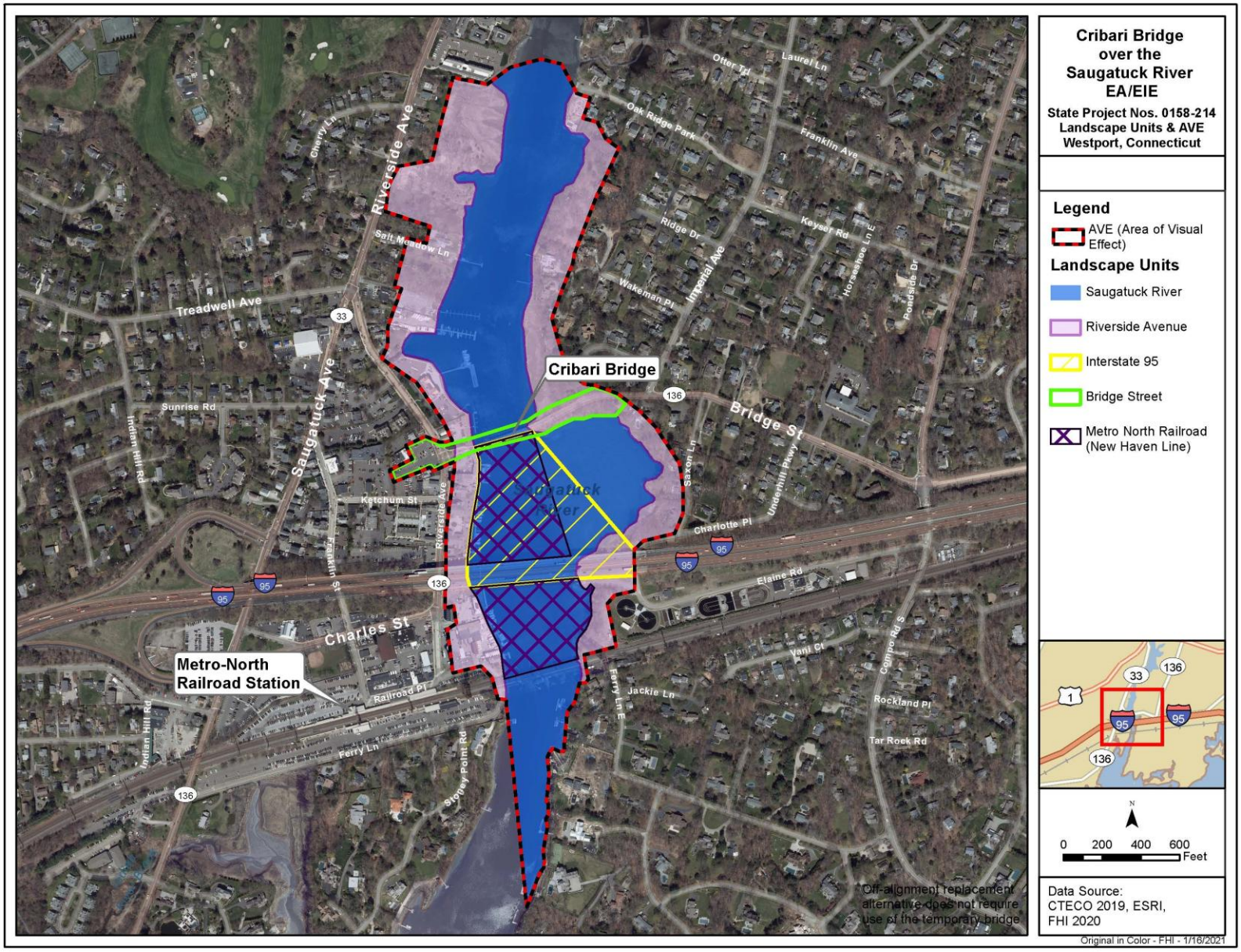

Figure 3-3: Map of the Area of Visual Effect (AVE) for Visual Impact Assessment

The visual setting encompasses the one-, two-, and three-story buildings, sidewalks, parking lots, and roadways comprising the mixed commercial/residential neighborhood on the west side of the river and residences dotting the east side of the river. The west side of the riverbank immediately surrounding the bridge is developed to the waterline with marinas, restaurants, and accompanying amenities, such as sidewalks, parking lots, and bulkheads. The visual landscape to the south is dominated by Interstate 95 (I-95) where it crosses the Saugatuck River, and the rail bridge and associated overhead catenary lines further to the south. I-95 is significantly elevated above the river. To the north, the landscape is dominated by the river and associated docks and marinas. On the eastern shoreline, the marsh gives way to mature trees, similar to the area further upstream on the west side.

Cribari Bridge lies on a State-designated scenic road. Under CGS § 13b-31c, State Route 136, west of the Saugatuck River, is also part of the designation, which continues west along Bridge Street and Compo Road South. The segment of the corridor designated as a scenic road runs from Riverside Avenue to Route 1 and includes views of the Cribari Bridge and the Saugatuck River. According to CGS § 13b-31c, any alteration of a scenic road must maintain its character, if practical (Designation of scenic roads, 2019).

The Westport Plan of Conservation & Development and Saugatuck TOD Master Plan detail the community goals relevant to the Cribari Bridge, discussed in Section 3.2 (BartonPartners, 2018). During PAC meetings held between July 2018 and May 2019 , additional input was received on visual character, including the goal to maintain the scale, mass, and materials (of the bridge) consistent and in harmony with the surrounding community. See Appendix I for PAC meeting summaries.

Impacts

No Build Alternative

There would be no change to the existing visual setting.

Conservation Alternative

North of Bridge Street on the western side of the river, the portion of the vegetated strip of land separating the parking lot from the roadway would be removed to provide the longer right-turn lane and would be a minor change in the visual landscape. There would be no other changes to the existing visual setting.

Rehabilitation Alternative

The overall mass and scale of the rehabilitation alternative would only minimally increase over the existing condition with the spreading of the ornamental trusses and widening of the sidewalk. Like the Conservation Alternative, on the west side of the river on the north side of Bridge Street, a vegetated strip of land separating the parking lot from the roadway would be removed to provide the longer right-turn lane. The I-95 superstructure and rail infrastructure (catenary lines) would continue to be more dominant forms in the visual landscape from most viewpoints. The temporary bridge would change the visual landscape north of the existing bridge during the construction period, but visual conditions would be restored upon completion of the bridge rehabilitation.

On-Alignment Replacement Alternative (Preferred Alternative)

Most views are from such a distance and of such short duration that the change in the scale and mass of the bridge would blend into the natural and built landscape. The south end of the AVE has natural landforms, I-95, and the Metro-North tracks that limit views. At the north end of the AVE, the bridge is unobstructed from the riverfront, but the view becomes less noticeable (the bridge blends into the background which is dominated by the more prominent I-95 bridge) and ultimately physiological limitations restrict views. Buildings, trees, and topography limit views beyond the riverfront in most locations.

For those with closer views, the bridge and intersection improvements would be designed to integrate into the surrounding built environment, with I-95 and the rail infrastructure (catenary lines) continuing to dominate the visual landscape.

Those with close and frequent views include travelers who cross the bridge regularly. These views are dynamic, and their awareness and attention are on driving, rather than observing the aesthetics of the bridge.

There are a few groups with sensitive views of the bridge. Those sensitive viewer groups are boaters (dynamic views) and immediately adjacent residential and civic riverfront properties (static views). The scale and mass of the On-Alignment Replacement Alternative would be larger than the existing bridge. However, I-95 and the rail infrastructure would continue to be dominant features in the AVE. The bridge would be designed to integrate into the surrounding built environment to avoid and minimize adverse impacts to the extent feasible.

The temporary bridge would change the visual landscape north of the existing bridge during the construction period, but visual conditions would be restored upon completion of the bridge replacement.

Off-Alignment Replacement Alternative

The scale and mass of the Off-Alignment Replacement Alternative would be larger than the existing bridge. However, similar to the On-Alignment Replacement Alternative, most views are from such a distance and of such short duration that the change in the scale and mass of the bridge and intersection improvements would blend into the natural and built landscape, even with the bridge shifted to a new alignment to the north. Sensitive viewer groups are boaters (dynamic views) and immediately adjacent residential and civic riverfront properties (static views).

This alternative presents the greatest change to the visual environment with the shift of the alignment to the north. The bridge would be designed to integrate into the surrounding built environment, with I-95 and the rail infrastructure (catenary lines) continuing to dominate the visual landscape.

Temporary impacts to the visual landscape during construction would be restored once construction is complete. The space where the existing bridge currently sits would be vacant after completion of the Off-Alignment Replacement.

SUMMARY OF POTENTIAL IMPACTS

There would be no change to the existing visual setting under the No Build Alternative. The change would be minor under the Conservation and Rehabilitation Alternatives. The overall mass and scale of the two Replacement Alternatives would be larger than the existing condition, but the I-95 superstructure and rail infrastructure (catenary lines) would continue to be more dominant forms in the visual landscape from most viewpoints. For both Replacement

Alternatives, the bridge would be designed to integrate into the surrounding built environment. Depending upon the alternative selected for the project, mitigation of impacts would be implemented in accordance with a future memorandum of agreement (MOA) between FHWA, CTSHPO, and CTDOT. CTDOT would work with the municipality and stakeholders during design to build an aesthetically pleasing replacement bridge that considers the community setting to the extent feasible for a state-owned resource.

3.7 Cultural Resources

Regulatory Setting

Section 106 of The National Historic Preservation Act of 1966 (NHPA) as amended requires that federal agencies consider the effects of the project's actions on properties that are listed in, or eligible for listing in, the NRHP (National Historic Preservation Act, 1966). The Saugatuck River Bridge has been listed in the NRHP since February 12, 1987 (National Park Service, 1987).

At the state level, Connecticut General Statutes (CGS) Statues and CEPA regulations require that actions undertaken by state agencies be evaluated to assess their impacts on historic, archaeological, cultural, or recreational buildings, objects, districts, or sites (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019; Connecticut Environmental Policy Act, 1973). Additionally, in keeping with the Environmental Classification Document (ECD) for the CTDOT, CTDOT is responsible for conducting a public scoping process and assessing the environmental significance for the "[d]emolition or major alteration of any building, structure or site listed or eligible to be listed on the National or State Registers of Historic Places as determined by the State Historic Preservation Office (SHPO)" (CTDOT, 2011).

Methodology

CTDOT, in consultation with SHPO and FHWA, established a preliminary study area for the assessment that extended from the bend in the Saugatuck River to the north near Oak Ridge Park to the Saugatuck River Railroad Bridge in the south and includes properties on the east and west sides of the river that are within the viewshed of the bridge (see Figure 3-4). The viewshed was constrained on the north and east by landforms that also limit indirect impacts such as noise and vibration. This preliminary study area was comprised of 52 parcels, several of which were noted as vacant. Through a field survey and desktop analysis, the project historian identified properties within this preliminary study area that were listed in, or could possibly be eligible for listing in, the NRHP (see Appendix A of the Section 106 Evaluation Letter (dated September 1, 2020) in Appendix B).

In accordance with the Section 106 Programmatic Agreement, CTDOT established an Area of Potential Effect (APE) and included the area within which the Proposed Action may cause alterations in the character or use of historic properties. These effects may be the result of a physical disturbance or visual, atmospheric, or auditory conditions. The APE developed for the Proposed Action encompassed the areas for each alternative under consideration. It was centered on the Cribari Bridge and included approximately 1,100 feet (0.2 miles) of Route 136 between Riverside Avenue on the west side of the Saugatuck River and across the bridge towards Imperial Avenue to the east (see Figure 3-4). The APE extended 500 feet north of the bridge to encompass the area needed for a potential temporary or permanent bridge installation and associated construction activities related to all the Build Alternatives. The APE also extended 250 feet south of the bridge to accommodate other potential construction activities. The upstream and downstream areas also took into consideration changes in the visibility of – and from – the bridge.

CTDOT applied the criteria of adverse effect to each of the alternatives to determine whether they would diminish the integrity of historic properties within the APE. Although each property was evaluated individually, a single recommendation of effect for the undertaking was made for each alternative. If an adverse determination is made, FHWA is responsible for completing the Section 106 review.

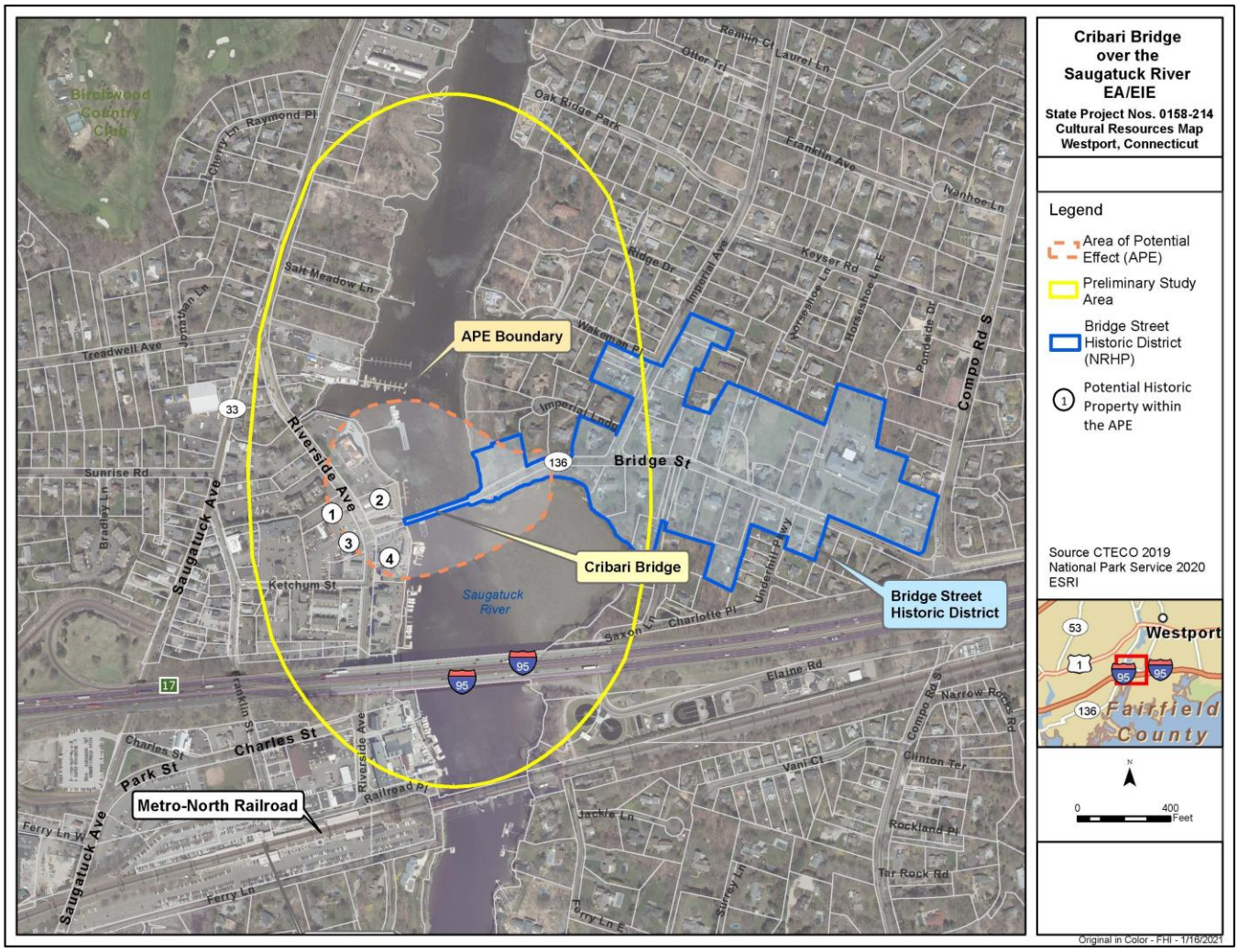

Figure 3-4: Preliminary study area for cultural resources impacts. (Within the preliminary study area, an Area of Potential Effect (APE) was developed based on the limits of probable impacts that would be foreseeably created by any one of the alternatives under consideration.)

When CTDOT initiated public involvement during the Rehabilitation Study, several organizations requested that CTDOT recognize them as Consulting Parties in the Section 106 process. Following a request by CTDOT when the study was initiated in 2017, FHWA granted Section 106 Consulting Party status to each of the following entities, and CTDOT consulted with these organizations regarding the evaluation of the bridge's historic integrity:

- The Coalition
- Preservation Connecticut (previously "Connecticut Trust for Historic Preservation")
- Green's Farms Association

- Historic Bridge Foundation
- historicbridges.org
- Residents of the Bridge Street Neighborhood
- Save Westport Now
- Westport Historic District Commission
- Westport Preservation Alliance

Past rehabilitation projects on the bridge resulted in an adverse effect on historic properties. By definition, the adverse effect diminished some aspect(s) of the bridge's historic integrity. At the time of the impacts, the extent of this loss was not documented, nor was a determination made as to whether the bridge was still eligible for the National Register of Historic Places. Recognizing that documenting the existing historic significance and integrity of the bridge would be necessary to evaluate the impact of future actions, CTDOT staff conducted a historic integrity assessment of the bridge in 2017. The resulting Evaluation of Integrity for Historic Properties report (McMillan, 2017) was provided to the Consulting Parties for their review and comment. CTDOT also presented the findings of the Integrity Assessment to the Westport Historic District Commission on July 17, 2017.

Additionally, the alternatives under consideration were presented at a series of PAC meetings held in Westport between July 2018 and May 2019. Among the stakeholders CTDOT invited were representatives of each of the nine Section 106 Consulting Parties. Consulting Parties were invited to participate in the PAC meetings to provide input on cultural resources considerations. An effects letter was submitted to the SHPO and Consulting Parties on September 1, 2020. On December 18, 2025, an initial meeting with the Historic Stakeholders was held to discuss the preferred alternative and the role of the Historic Stakeholders in developing the MOA. Communications and documentation related to the consultation, including comments received from Consulting Parties, are included in Appendix B.

Existing Conditions

Above-Ground Historic Resources

A review of records at the SHPO identified two historic properties within the APE that are listed in the NRHP: the Cribari Bridge and the Bridge Street Historic District. Five additional buildings located within the APE were identified as potentially eligible because of their age and warrant further study. A summary of the listed and potential historic properties is provided below (see Table 3-4), and their locations are shown in Figure 3-4. Additional information on the five buildings that were identified as potentially eligible is included in the Section 106 Evaluation Letter in Appendix B.

Cribari Bridge

The Cribari Bridge was erected in 1884 as a wrought-iron, pin-connected swing bridge. It was built by Central Bridge Works of Buffalo, New York and replaced an original 1869 bridge on the site. The bridge was constructed to meet the needs of overland transport during the growth in the Town's onion trade. A swing bridge was necessary to accommodate not only vessels destined for Saugatuck but also those traveling upstream to Westport Center. The Cribari Bridge was listed in the NRHP in 1987 under Criteria A and C (see Appendix C for the National Register nomination for the bridge).

As noted above, in preparation for this study, and in light of the 1991 rehabilitation of the bridge that resulted in an adverse effect on historic properties, CTDOT undertook an evaluation of the integrity of the bridge in 2017 (see

Appendix B of the Section 106 Evaluation Letter (dated September 1, 2020) in Appendix B). The evaluation recommended that the bridge retained sufficient integrity to qualify for inclusion in the NRHP under Criterion A, but that its integrity of design, materials, workmanship, and association had been compromised such that it was no longer eligible under Criterion C. CTDOT sought comments from the SHPO, the Connecticut State Historic Preservation Review Board, and the nine organizations that would later be recognized as Consulting Parties regarding this assessment. The findings of the evaluation were presented by CTDOT staff at a public meeting at Westport's Town Hall in July 2017.

Bridge Street Historic District

The Bridge Street Historic District spans approximately one half-mile along Route 136 from the Cribari Bridge in the west to the west side of Compo Road South in the east. The district extends north to include portions of Imperial Avenue and south to the rear property lines of those properties along Route 136 as far east as 34 Bridge Street (see Figure 3-4). It is residential in character, with contributing properties dating between c. 1809 and 1945. The district is comprised of 42 properties, including 28 contributing buildings, three contributing structures, and 11 non-contributing buildings. The Cribari Bridge is listed as one of the contributing structures. The Anna E. Dolan House at 12 Bridge Street also lies within the APE and is a contributing element to the Bridge Street Historic District. Two additional parcels lie within the bounds of the Bridge Street Historic District and the APE, but both are vacant and do not appear to contain any historic properties. The Bridge Street Historic District was determined eligible under National Register Criteria A and C (see Appendix C for the National Register nomination for the district).

Potential Historic Properties

Preliminary research identified five additional properties within the APE that could potentially be eligible for NRHP listing. These properties are summarized in Table 3-4 below, and their locations are shown in Figure 3-4. In preparation for the Downtown Saugatuck TOD Master Plan (BartonPartners, 2018) a potential National Register-eligible historic district was identified encompassing properties on Riverside Avenue, Franklin Street and Saugatuck Avenue. These properties included the five properties identified below (BartonPartners, 2018). These properties were presumed eligible for the purpose of the Section 106 consultation for this project.

Table 3-4: Potential Historic Properties within the APE

Property number	Address	Date of Construction	Notes
1	530 Riverside Avenue	1900	Originally residence; currently two-story restaurant
2	535 Riverside Avenue (Building 1)	1875	Originally mattress factory; currently two-story restaurant
2	535 Riverside Avenue (Building 2)	1900	Originally part of mattress factory; currently one-story restaurant
3	540 Riverside Avenue (2 buildings; one potentially eligible)	1900	Originally residence; now 2-1/4-story commercial
4	555 Riverside Avenue	1900	Two-story firehouse

Archaeological Resources

The soils on the west side of the river are classified as Urban Land and Udorthent-Urban Land Complex according to the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2019). Predictive models based on soil classification mapping, proximity to water resources, geography, slope of terrain, and the proximity of known archeological sites and survey areas suggest that these types of soils have low archaeological sensitivity. On the east side of the river, the soils are classified as Westbrook Mucky Peat and Agawam Fine Sandy Loam, which are classified as having unknown archaeological sensitivity. There are no known archaeological sites in or within a half mile of the APE. The area has been subject to past ground disturbance due to the installation of utilities, infill on the west bank, and the installation and removal of the temporary bridge during the 1991 rehabilitation.

Impacts

No Build Alternative

Under the No Build Alternative, there would be no ground disturbance or alterations to the bridge or surrounding properties within the APE. There would be No Adverse Effect under Section 106.

Conservation Alternative

The trusses, which have been damaged over time, would be repaired under the Conservation Alternative. The existing guardrail system would be replaced in kind. However, the integrity of the bridge would not substantially change. The Conservation Alternative would increase noise levels and result in a disruption in normal traffic patterns on both the road and the river during construction and require the temporary use of a portion of 535 Riverside Avenue. These impacts would be temporary in nature and would not affect the integrity of 530, 535, 540, or 555 Riverside Avenue. The Conservation Alternative would have No Adverse Effect under Section 106.

Rehabilitation Alternative

With the Rehabilitation Alternative, the widening of the trusses would further diminish the integrity of the design of the original trusses; however, the bridge's integrity of design was compromised by the 1991 rehabilitation when the trusses ceased to function as load-bearing elements. The existing top truss members would be reused, but new elements would be installed to span the additional two-foot distance between the top assemblies and each side of the truss. This would introduce new materials and change the existing connections; however, these connections were already altered as a part of the 1991 rehabilitation. These changes would not alter the bridge's location or its setting, which are key to its association with the development of the Saugatuck community and its eligibility under Criterion A. Moreover, the Rehabilitation Alternative would not substantially alter the feeling of the bridge or its ability to convey its sense of history. Construction impacts would be similar to the Conservation Alternative and would not affect the integrity of 530, 535, 540, or 555 Riverside Avenue. This alternative would have No Adverse Effect under Section 106.

On-Alignment Replacement Alternative (Preferred Alternative)

The On-Alignment Replacement Alternative would remove the existing historic bridge from its setting, compromising its integrity of setting, materials, design, and association. Construction impacts would be similar to the Conservation Alternative and would not affect the integrity of 530, 535, 540, or 555 Riverside Avenue. The Replacement Alternatives would result in an Adverse Effect under Section 106.

Off-Alignment Replacement Alternative

The Off-Alignment Replacement Alternative would remove the existing historic bridge from its setting, compromising its integrity of setting, materials, design, and association. Construction activity would increase noise levels and result in a disruption in normal traffic patterns on both the road and the river during construction. Construction impacts would not affect the integrity of 530, 535, 540, or 555 Riverside Avenue. The Off-Alignment Alternative would require the elimination of a small portion of the parking at 535 Riverside Avenue and alter its access; however, this change would not diminish the integrity of 535 Riverside Avenue as a potential historic property. The Off-Alignment Replacement Alternative would result in an Adverse Effect under Section 106.

SUMMARY OF POTENTIAL IMPACTS

The No Build, Conservation, and Rehabilitation Alternatives would have No Adverse Effect under Section 106. The two Replacement Alternatives would remove the existing historic bridge, resulting in an Adverse Effect under Section 106. Depending upon the alternative selected for the project, temporary easements would be determined in consultation with property owners as needed, and property owners would be fairly compensated for any permanent loss. Mitigation of impacts would be implemented in accordance with a future final memorandum of agreement (MOA) between FHWA, CTSHPO, and CTDOT. The Draft MOA is included in Appendix B.

3.8 Section 4(f) Resources

This section presents existing conditions related to Section 4(f) resources and assesses the potential effects to these resources associated with project alternatives.

Regulatory Setting

Under Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. § 303 (as amended), federal transportation agencies cannot approve an undertaking that uses land from a significant public park, recreation area, wildlife or waterfowl refuge, or historic site unless the agency determines that there is no feasible and prudent avoidance alternative to the use of that property and that either: (1) the proposed project includes all feasible planning to minimize harm to the property resulting from its use; or (2) the agency determines that the use, including any measures to minimize harm, will ultimately have a de minimis impact on the property (Policy on lands, 1966).

The FHWA has established a Programmatic Section 4(f) Evaluation for projects that necessitate the use of a historic bridge (Federal Highway Administration, 1983). Alternatives that involve the replacement of the Cribari Bridge are eligible for evaluation under this Programmatic Evaluation.

Methodology

The study area for Section 4(f) Resources is identical to the APE for Section 106 Resources, as shown in Figure 3-4. Historic sites were inventoried as documented in Section 3.7. Public parks, recreation areas, and wildlife and waterfowl refuges were identified through a variety of resources, including CTDEEP and CT ECO GIS data, the National Park Service, and the Town of Westport's Plan of Conservation and Development (CTDEEP, n.d.; CTECO, n.d.; National Park Service, n.d.; Planning and Zoning Commission, 2017). The Programmatic Section 4(f) Evaluation must identify and evaluate alternatives and identify and assure implementation of measures to minimize harm (if applicable).

Existing Conditions

Historic sites within the study area are those identified in Section 3.7. These include the Cribari Bridge, the Bridge Street Historic District, and the four properties presumed eligible for National Register listing (530, 535, 540, and 555 Riverside Avenue). There is one recreational resource within the study area, the ECG, which traverses the Cribari Bridge. While the ECG is a recreational resource, it is not subject to the requirement for Section 4(f) approval as an exception under 23 CFR § 774.13 (f), because this portion of the ECG is primarily used for transportation, and it is an integral part of the local transportation system.

Impacts

No Build Alternative

The No Build Alternative would not result in a use under Section 4(f); however, prior to the approval of any action (including no action), the FHWA must determine if the action is feasible and prudent and addresses key elements of the project's purpose and need as part of the Programmatic Section 4(f) Evaluation.

Conservation and Rehabilitation Alternatives

As noted in Section 3.7, the Conservation and Rehabilitation Alternatives would not result in an adverse effect under Section 106. Both alternatives would require the temporary occupancy of a portion of 535 Riverside Avenue, but it is anticipated that the occupancy would qualify as an exception under 23 CFR § 774.13 (d). As such, there would be no use under Section 4(f). Similar to the No Build Alternative, prior to approval of any action, the FHWA must determine if the action is feasible and prudent and addresses key elements of the project's purpose and need as part of the Programmatic Section 4(f) Evaluation.

On-Alignment Replacement Alternative (Preferred Alternative)

As noted in Section 3.7, the On-Alignment Replacement Alternative would result in an adverse effect under Section 106 due to the replacement of Cribari Bridge. It would also result in a use under Section 4(f) from this replacement. The Preferred Alternative would require the temporary occupancy of a portion of 535 Riverside Avenue, which would qualify as an exception to Section 4(f). Prior to approval of the Proposed Action that involves a use under Section 4(f), the FHWA must determine that there is no feasible and prudent avoidance alternative to the use of that property (as part of the Programmatic Section 4(f) Evaluation) and that the proposed project includes all feasible planning to minimize harm to the property resulting from its use.

Off-Alignment Replacement Alternative

Like the On-Alignment Replacement Alternative, and as noted in Section 3.7, the Off-Alignment Replacement Alternative would result in an adverse effect under Section 106 due to the replacement of the Cribari Bridge. The Off-Alignment Alternative would also require the elimination of a small portion of the parking at 535 Riverside Avenue and alter its access. As such, the Off-Alignment Replacement Alternative would result in a use under Section 4(f). As noted above, prior to approval of any action that involves a use under Section 4(f), the FHWA must determine that there is no feasible and prudent avoidance alternative to the use of that property (as part of the Programmatic Section 4(f) Evaluation) and that the action includes all feasible planning to minimize harm to the property resulting from its use.

SUMMARY OF POTENTIAL IMPACTS

The No Build, Conservation and Rehabilitation Alternatives would not result in a use under Section 4(f), while the On-Alignment and Off-Alignment Replacement Alternatives would result in a use under Section 4(f). Prior to approval of the Proposed Action that involves a use under Section 4(f), the FHWA must determine that there is no feasible and prudent avoidance alternative to the use of that property and that the proposed project includes all feasible planning to minimize harm to the property resulting from its use. As part of the requirements of FHWA's programmatic Section 4(f) evaluation for the use of historic bridges, a Bridge Marketing Plan is included as an attachment to the Section 4(f) evaluation in Appendix A. If contractor laydown and storage areas are located within the Bridge Street Historic District, these areas will go through a Section 4(f) evaluation when they are identified.

3.9 Water Resources and Water Quality

This section presents existing conditions for water quality in the project area and assesses potential effects on these water resources associated with project alternatives.

Regulatory Setting

As mandated by the USEPA via the Clean Water Act (CWA) (Clean Water Act, 33 U.S.C. §1251 et Seq., 1972b), the CTDEEP regulates water quality standards for the state. The Connecticut Water Quality Standards (WQS) provide guidance, policies, and goals for maintaining or improving water quality within the state, including surface waters and groundwater (Connecticut Water Quality Standards, §§ 22a-426-1—22a-426-9, 2015). Additionally, the WQS establishes designated use classifications and describes allowable discharges for each groundwater and surface water resource throughout the state. For discharges into waters of the United States, a Section 401 Water Quality Certification would be required from CTDEEP, and a Section 404 permit would be required from the USACE. CTDOT would apply for a Structures, Dredging, and Fill Permit and 401 Water Quality Certification during the permitting phase of the project.

The National Pollutant Discharge Elimination System (NPDES) Stormwater Program is authorized by Section 402 of the CWA (NPDES, 1972) to control water pollution by regulating sources that discharge into the waters of the United States. CTDEEP is authorized to implement the NPDES Stormwater Program in Connecticut.

Methodology

The study area for assessing water resources and water quality is defined by an approximately 50-foot-wide buffer centered on and surrounding each of the proposed bridge alternative alignments wherein construction-related disturbance would occur. Information regarding the presence, classification, and characterization of water resources and water quality within the study area was obtained from a combination of online data sources and onsite observations. Stormwater information was obtained from existing conditions, field surveys, and information made available from the Town of Westport. Information identifying existing water quality impairments was gathered from USEPA data sources and the EnviroMapper (USEPA, 2023).

Existing Conditions

Surface Water

The surface waters of the Saugatuck River at the location of the Cribari Bridge are classified as "SA" (CTDEEP, 2023b) coastal and marine waters. Class SA waters are classified as having designated uses for fishing, swimming and recreation, marine fish, shellfish, and wildlife habitat, commercial shellfish harvesting, industrial water supply, and navigation (CTDEEP, 2010).

The Cribari Bridge is located within a reach of the Saugatuck River that is identified as having a water quality impairment. Specifically, elevated levels of *Enterococcus* bacteria indicate that the waterbody is not meeting its designated use for recreation. USEPA lists the following as probable sources contributing to the impairment: residential districts, urban runoff/storm sewers, and illicit connections/discharges to storm sewers (USEPA, 2022).

Stormwater

The existing bridge has a solid deck with steel channel curbing. The timber sidewalk is detached from the bridge roadway deck, and stormwater runoff from the sidewalk sheet flows directly to the Saugatuck River. Bridge deck drainage consists of scuppers (open grates eighteen inches by six inches), spaced approximately twenty-four feet apart along both sides of the bridge. The scuppers discharge stormwater from the bridge deck directly to the Saugatuck River, receiving no pretreatment.

Stormwater in the project area adjacent to the existing bridge is conveyed from impervious surfaces associated with businesses, residences, and along both state and local roads directing the flow to catch basins, and pipes that ultimately convey the water to outfalls that discharge to the Saugatuck River (Town of Westport, 2023b). The stormwater conveyance is separate from the sanitary sewer system. There are two existing roadway drainage systems adjacent to the bridge. The system located to the west of the bridge collects stormwater from the intersection of Bridge Street and Riverside Drive, and adjacent businesses and parking lots. The system located to the east of the bridge collects stormwater from the north side of Bridge Street, a sidewalk, and adjacent residential properties, as well as a portion of Imperial Avenue and adjacent residential properties. Runoff from the south side of the roadway is conveyed via sheet flow over the roadway embankment since there are no curbs. Stormwater from the two outfalls does not currently receive any pretreatment before entering the river.

Impacts

No Build Alternative

The No Build Alternative effects on water quality would not be altered by the current conditions on the Cribari Bridge and the storm drainage outfalls. Current stormwater runoff sources on the bridge and approach roadways are the same as described in the existing conditions. In the No Build Alternative, contaminants from vehicles and winter roadway surface treatment would continue to affect water quality in the same manner as current conditions.

Conservation Alternative

Similar to the No Build Alternative, effects on water quality with the Conservation Alternative would not be altered from the current conditions on the Cribari Bridge because there would be no increase in impervious areas contributing

to the existing scuppers. There would be additional impervious surface area and related runoff from the lengthening of the right turn lane from Bridge Street on the west approach roadway. The east approach roadway would not be widened. No improvements to the storm drainage systems in the approach roadways would be incorporated in this alternative. Therefore, the effects on water quality would not be improved from the current condition at outfall locations.

Rehabilitation Alternative

Similar to the Conservation Alternative, effects on water quality would not be improved from the current conditions on the Cribari Bridge for the Rehabilitation Alternative as no improvements to the storm drainage systems on the approach roadways would be incorporated. The widening of the trusses would not increase the impervious area on the bridge. The bridge deck roadway width would remain the same, and the sidewalk would continue to be detached from the deck. The approach roadways and drainage systems for this alternative are the same as described in the Conservation Alternative – i.e., additional impervious area and runoff generation potential from the lengthening of the right turn lane from Bridge Street on the west approach roadway.

On-Alignment Replacement Alternative (Preferred Alternative)

It is expected that both Replacement Alternatives could improve effects on water quality from the current conditions on the Cribari Bridge as well as the existing storm drainage outfalls. The impervious area of the new structure would be increased due to a widened roadway and sidewalk. Stormwater improvements would be investigated during design. The type of stormwater collection system and discharge locations incorporated in the replacement bridge alternatives would depend on the design of the structure and approach roadways. It is anticipated that scuppers would be necessary on the movable span of the bridge, if needed. Stormwater pretreatment measures to improve water quality would be investigated during design.

The temporary bridge needed for the On-Alignment Replacement Alternative is anticipated to have a solid bridge deck with precast concrete barrier curb. This would increase impervious areas and generate stormwater runoff. Temporary storm drainage collection systems, and stormwater pretreatment measures to maintain water quality, would be investigated during design.

It is anticipated that the replacement bridge alternatives would be subject to the requirements of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (i.e., Construction General Permit) issued by CTDEEP under the authority of the NPDES program. Potential construction-phase stormwater impacts would be minimized through the implementation of a Stormwater Pollution Control Plan in accordance with the Construction General Permit, as well as adherence to Form 819, Section 1.10 Environmental Compliance, Required Best Management Practices (BMPs) and the Connecticut Guidelines for Soil Erosion and Sediment Control (as amended) (CTDEEP, 2024b). Soil erosion and sediment controls and other BMPs would be implemented under the direction of CTDOT personnel. Post-construction stormwater management provisions would be implemented in accordance with the Construction General Permit, the Connecticut Stormwater Quality Manual (CTDEEP, 2023c), and the post-construction stormwater management requirements of the CTDOT Municipal Separate Storm Sewer System (MS4) General Permit and associated Department policies.

Off-Alignment Replacement Alternative

The Off-Alignment Replacement Alterative would be similar to the On-Alignment Replacement Alternative, except the existing bridge would continue to be utilized during construction for the Off-Alignment Alternative, and therefore no change to water quality from the existing bridge drainage would occur.

SUMMARY OF POTENTIAL IMPACTS

The No Build Alternative would not change existing conditions, while the Conservation and Rehabilitation Alternatives would result in an increase in impervious surface and subsequent runoff generation potential resulting from the lengthening of the right turn lane from Bridge Street. The On-Alignment and Off-Alignment Replacement Alternatives would also result in an increase in impervious surface and subsequent runoff generation potential resulting from a widened roadway and sidewalk. However, these alternatives could result in improvements to water quality from the stormwater pretreatment and drainage collection systems investigated during the project design and development of BMPs. Dependent upon the alternative selected for the project, the project would be designed in accordance with the General Permit for the Discharge of Stormwater from Department of Transportation Separate Storm Sewer Systems (DOT MS4 General Permit) to the maximum extent practicable to mitigate any potential increases to current impairments; specific stormwater management and monitoring practices during Project design, including practices to mitigate sedimentation or siltation to the Saugatuck River would be identified; plan preparers and monitors would possess the qualifications required by the permit and applicable local requirements; and the requirements of the Construction Stormwater General Permit due to siltation/sedimentation impairment would be incorporated. Currently, CTDOT does not have an overall watershed plan as part of their MS4 program, though they are progressing with the U.S. Geological Survey (USGS) to model their overall system to identify where specific retrofit projects are most effective. However, CTDOT does have requirements for individual construction projects to use Best Management Practices to reduce pollutants of concern which would be incorporated into the Project.

3.10 Navigable Waters

This section presents existing conditions for navigable waters in the project area and addresses changes to navigable waters associated with project alternatives.

Regulatory Setting

Navigable waterways are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, have been used in the past, or may be susceptible to use for transport of interstate or foreign commerce (Definition of Navigable Waters of the US, 1986). Transportation projects that affect navigable waterways are subject to permitting and review.

The USCG is responsible for enforcing federal laws to ensure the safety of vessels and waterfront facilities and the protection of navigable waters and would assume a leading role in permitting the project relative to bridge clearances, navigational lighting, and structures and activities potentially impacting the navigable waterway (Ports and Waterways Safety, 1983).

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE prior to construction of any structure over, excavation from, or disposal of materials into navigable waters (Rivers and Harbors Act, 1899). Structures or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the

structure or work affects the course, location, or condition of the water body. Section 14 of the Act provides that any use or alteration of a civil works project is subject to the approval of USACE, and Section 408 provides that USACE may grant permission for another party to alter a civil works project upon a determination that the alteration proposed would not be injurious to the public interest and would not impair the usefulness or purpose of the project.

Methodology

Information on navigation was collected for the Saugatuck River from approximately the Route 1 Bridge of the Saugatuck River (to the north) down to the railroad bridge to the south. Information on navigable waters was obtained through multiple existing sources, including information on the USACE New England District (NED) website Navigation Projects page, CTDEEP online mapping, and NOAA navigation charts (CTDEEP, 2023a; NOAA, 2023a; USACE, 2023). Tidal elevation information was obtained from permit documentation for the Saugatuck River railroad bridge cable crossing, which is part of the Walk Bridge Project downstream of the Cribari Bridge. Information on bridge openings was obtained from CTDOT operation records. Information on vessel use was obtained from coordination with the Westport Harbormaster, Westport Shellfish Commission, private water-dependent companies along the river, and through public outreach. A memorandum summarizing coordination (i.e., phone interviews, email correspondence) with river users is included in Appendix K.

Existing Conditions

The Saugatuck River flows through Westport Harbor and empties into Long Island Sound at the southwestern end of Westport in the vicinity of Saugatuck Shores. According to the USACE NED, the river is navigable from its mouth at the Saugatuck section of Westport north to the U.S. Route 1 Bridge in Westport – a distance of 4.2 miles. Recreational vessels are based in marinas and private docks along the river. The main navigation feature of the Westport Harbor/Saugatuck River area is a five-foot-deep channel (NAD83) at mean lower low water (MLLW) according to NOAA (NOAA, 2022a) that extends from the highway bridge at Saugatuck to Westport Harbor. The Saugatuck River's navigable channel width at Cribari Bridge is 50 feet, and its vertical clearance is reported as 7 feet in the closed position in NOAA navigational charts of the area (NOAA, 2022a). Based on the USACE NED navigation project for the Saugatuck River, the channel within the immediate vicinity of the bridge is not defined by any official coordinates, but rather is a naturally deep portion of the river channel.

Since the movable bridge is not continuously staffed, openings are only scheduled upon request and occur year-round. A sign posted on the bridge provides public notice regarding how much advanced notice is required to schedule an opening and who to contact. Bridge openings occur upon request via phone call to the CTDOT District 3 Office at least two to twenty-four hours in advance of the requested opening depending on the time of year. While bridge openings are permitted year-round (except federal holidays), they are most prevalent in summer (see Table 3-5), with July being the busiest month over the past nine years. The average time for a complete cycle of opening the bridge is reported to be approximately twenty minutes. See Section 3.4 for a description of how bridge openings impact travel across the bridge.

Table 3-5: Bridge Openings by Month for Cribari Bridge

Year	Number of Bridge Openings*	Jan	Feb	Mar	Arp	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	7	0	0	0	0	0	1	1	2	0	1	1	1
2014	24	0	0	0	0	0	6	9	2	1	3	3	0
2015	14	0	0	3	0	0	2	6	3	0	0	0	0
2016	22	0	0	0	0	0	5	8	5	1	2	0	1
2017	17	0	0	0	0	0	5	6	1	3	0	2	0
2018	39	0	0	0	0	0	3	17	10	5	0	3	1
2019	24	1	1	0	0	1	0	3	10	3	2	3	0
2020	37	0	0	5	0	2	3	12	6	7	1	0	1
2021	29	0	0	0	0	1	6	9	5	5	1	1	1
2022	48	0	0	0	0	1	2	15	17	8	3	2	0
-	**Average Number of Openings by Month (2013-2022)**	**0**	**0**	**1**	**0**	**1**	**4**	**10**	**7**	**4**	**1**	**2**	**1**

**Source: Connecticut Department of Transportation and Westport Police Department.*

There have also been recent issues related to bridge operations. In July 2018, the bridge's mechanical system failed due to overheating from above-average use and ambient temperatures, which resulted in the bridge being unable to close for an extended period. Several mechanical failures also occurred during the fall of 2019, resulting in the bridge being stuck in the open position and preventing any vehicular traffic from crossing the river, resulting in the need for mechanical maintenance in November 2019. With increasing navigation of the Saugatuck River, reliable and efficient bridge openings are needed.

It has also been expressed by mariners that smaller vessels, which normally do not require the opening of the bridge, have some difficulty passing beneath the closed bridge when the river approaches high tide due to the limited clearance between the low chord of the bridge and the water line. However, due to the large fluctuation between high and low tides, smaller vessels can time their passage beneath the bridge during lower tidal periods with little difficulty. Barges currently have difficulty due to the narrowness of the 50-foot channel and plan passage from one side of the bridge to the other to coincide with periods of slack.[18] During slack, it is easier to maintain control of the barge.

Based upon surveys conducted by CTDOT for the project and/or information obtained from CTDEEP online resources, Mean Low Water is at -3.67 feet (NAVD88) and Mean High Water is at 3.32 feet (NAVD88), and the Highest Astronomical Tide (HAT) is 5.15 feet (NAVD88). The low chord of the existing bridge in the closed position is 8.4 feet (NAVD88).

[18] Slack refers to the short-durations of time (2-3 hours) at the end of each rising and falling tide when there is little to no current or movement of water.

Impacts

No Build Alternative

There would be no changes to existing navigational clearances/dimensions under the No Build Alternative. Some mariners would continue to experience unreliability with bridge openings, and small vessels would continue to experience difficulties passing under the bridge at high tides.

The existing bridge would continue to require maintenance activities at the site, some of which may involve temporary restrictions of the navigable waterway as necessary to perform the required work. As the bridge grows older, these maintenance activities may become more frequent. All future maintenance activities would continue to be undertaken in accordance with applicable regulatory requirements.

Conservation Alternative

There would be no changes to existing navigational clearances/dimensions under the Conservation Alternative; therefore, this alternative would have no long-term adverse effect on navigation.

The proposed temporary bridge required for the Conservation Alternative would be a fixed-span structure, located upstream of the existing bridge. The goal for the temporary bridge design would be to provide a vertical clearance from its low chord of approximately 18 feet at MLW, similar to that provided for the bridge rehabilitation project, which was undertaken by CTDOT in the 1990s. Although the temporary bridge's vertical clearance would be equal to or greater than the existing bridge in the closed position, it would still result in a vertical clearance restriction over the navigation channel since it would have less vertical clearance than the existing bridge in the open position. Therefore, some marine travel would be prohibited under the bridge during construction. According to a survey of river users, marinas upstream of the bridge reported users with boats coming out of storage in spring and into storage in autumn may be impacted – along with the marina itself, which requires passage during winter for bringing in construction equipment for dock repairs (see Appendix K). Saugatuck Rowing Club activities would also be subject to restrictions during construction. The temporary bridge alignment passes over a floating removable private dock situated directly northwest of the existing bridge; therefore, for the Conservation, Rehabilitation, and On-Alignment Replacement Alternatives temporary removal by the private property owner or relocation of this dock would be required during the construction period. Public access would not be impacted as a result of the removal of this dock. Restrictions would occur from the time the temporary bridge is constructed until the time it is removed, which would be the majority of the construction duration of approximately two to three years. Relatively short-term passage restrictions would also occur during the actual construction of the temporary bridge, specifically of the span crossing the channel, due to the temporary placement of barges to facilitate construction. No new dredging is anticipated to be required for this alternative.

The removal of the approach span trusses would also require partial closures or limited crossing times within the navigation channel due to the proximity of construction equipment, such as barges, and activities obstructive to the channel, crane booms, or under-bridge scaffolding. Passage limitations would also be in place within the navigational channel during the Pier 2 repair work and during the removal and reinstallation of the swing span ornamental trusses.

For all of the Build Alternatives, construction impacts would be minimized through proper construction staging and would be coordinated with the USCG, USACE, CTDEEP, the Town of Westport (i.e., Harbormaster, Shellfish Commission), and other stakeholders. Notices to mariners would be posted, as necessary.

Rehabilitation Alternative

Unlike the Conservation Alternative, the Rehabilitation Alternative would result in a permanent reduction of the existing navigation channel width. In the open position, the wider bridge structure, and corresponding wider fender system, would protrude two feet further toward the channel and reduce the horizontal clearance from 50 feet to 48 feet. Since the existing piers would be utilized under this alternative and would not be relocated, there is no way to avoid this encroachment. This would be a limiting factor for barges that regularly require passage upstream for the purposes of conducting dock work, pile driving, and other activities (R. Guimond, Bridgebrook Marina, personal communication, November 5, 2020). Barges already have difficulty due to the existing narrowness of the channel. Reduction of the channel by two feet would restrict current vessels that might utilize the river north of the bridge. No changes would occur to the closed position width or the marine vertical clearance for the bridge in the closed or open positions. No new dredging is anticipated to be required for this alternative. The new fender system, which would be slightly larger than the existing one, would meet the latest design guidelines and provide enhanced protection from vessel collisions with the piers.

Temporary impacts as a result of construction activities would be similar to those stated under the Conservation Alternative. Short-term partial or temporary full closure of the navigation channel would occur for the following activities: removing the swing span trusses, replacing the swing span trusses, replacing the fender system, and installing the rail system of the movable span.

On-Alignment Replacement Alternative (Preferred Alternative)

This alternative would require several modifications to the existing substructure of the bridge. First, Pier 1 (the mechanical pier) would be relocated from its current location on the western side of the channel to the eastern side of the channel. Since it is new construction, the new pier would be located in a way that allows for the widening of the roadway span without impacting the existing channel width. The piers on either side of the channel would be protected by larger fender systems to accommodate the new movable span, and to provide better protection for both vessels and the piers. No new dredging is anticipated to be required for this alternative.

Due to the higher profile of the new bridge, the goal would be to increase the marine vertical clearance, creating more vertical space and reducing the number of openings required.[19] According to coordination with Alicia Mozian, the Westport Conservation Director and staff liaison to the Westport Shellfish Commission, the new bridge would not provide any socioeconomic benefit to shellfish businesses since they presently have no issues going back and forth under the bridge (A. Mozian, personal communications, July 10 & 14, 2020). Ms. Mozian coordinated directly with the existing commercial shellfish companies upstream of the bridge in July 2020.

The process for requesting a bridge opening would likely be modified based on the final design of the structure, but it is anticipated that the process would be made easier than the existing process. There would be no anticipated revisions to existing posted speed limits or navigational charts, as the navigable channel would not be modified.

Impacts to the navigable channel during construction would be similar to those of the Conservation and Rehabilitation Alternatives; however, additional work in and around the channel would be required for the removal of the existing piers and the construction of the new mechanical pier on the east side of the channel and the new rest pier on the

[19] Exact vertical increase would be vetted out at design level if chosen.

west side of the channel. As a result, this alternative would have more frequent and longer restrictions to channel access than the previous alternatives due to work barge placement, marine enclosures with silt boom containment, installation of submarine cables, under-bridge debris scaffolding, and construction equipment. Short-term partial or full closure of the navigation channel would occur for the following activities: removal of the existing swing span superstructure, removal of the swing span piers and fender system, construction of the movable span piers and fender system, and movable span construction or float in erection and connection. Similar to the other alternatives, this alternative would also require the installation and removal of a temporary bridge and the installation and removal of work trestles in similar locations.

Off-Alignment Replacement Alternative

The new bridge would be located to the north of the existing bridge and would therefore require all new piers at new locations. The movable span would be a similar configuration as the On-Alignment Replacement Alternative, with the mechanical pier on the east side of the channel, and the rest pier on the west side. Since the piers would be new, they would be located so as not to impact the navigation channel. Similar to the On-Alignment Replacement Alternative, the vertical clearance of the bridge in the closed position would be increased, which would allow easier passage of vessels under the bridge.[20] No new dredging is anticipated to be required for this alternative. This alternative would have a long-term beneficial effect on navigation, although there would be a permanent impact on the existing dock to the northwest of the bridge and lengthier temporary construction period impacts (as described below).

The proposed bridge alignment passes over a floating removable private dock situated directly northwest of the existing bridge; therefore, permanent removal or relocation of this dock by the private property owner would be required under this alternative. No public access to the water would be impacted as a result of the removal of this dock.

Temporary construction impacts that would affect navigation include the installation and removal of a work trestle, placement of barges, installation of submarine cables, construction of temporary under-bridge scaffolding, and use of construction equipment that may be within the channel envelope. Short-term partial or full closure of the navigation channel would occur for similar activities as the On-Alignment Replacement Alternative. This alternative would not require the construction of a temporary bridge, so there would be no long-term temporary restriction of marine vertical clearance, only short-term restrictions due to new bridge construction of the movable span and removal of the existing movable span. Most of the proposed construction outside of the movable span would be performed with little to no restriction to the operation and usage of the navigable channel. During the construction of Pier 1 of the proposed bridge, the existing swing span would be required to remain in the closed position for a set duration; however, during the foundation construction, opportunities would be available to open the bridge in accordance with a specified schedule. This schedule would be established based on future coordination with regulatory agencies and stakeholders. The duration of impacts would be longer than the Conservation and Rehabilitation Alternatives, but not as long as the On-Alignment Replacement Alternative. Any construction impacts with the action alternatives would be minimized through proper construction staging and would be coordinated with the USCG, USACE, CTDEEP, and the Town of Westport Shellfish Commission and Harbormaster along with other stakeholders. Notices to mariners would be posted as necessary.

[20] Ibid.

SUMMARY OF POTENTIAL IMPACTS

There would be no changes to existing navigational clearances/dimensions under the No Build and Conservation Alternatives. The Rehabilitation Alternative would reduce the channel width by two feet, which may restrict some vessels that currently utilize the river north of the bridge including barges. Under the two Replacement Alternatives, the vertical clearance of the bridge in the closed position would be increased, constituting a beneficial impact for vessels, allowing them easier passage without a bridge opening. There would be temporary impacts to some marine travel during the construction of each of the alternatives, with longer and more frequent restrictions for the Replacement Alternatives. A summary of the effects on navigable waters is included in Table 3-6 below. Depending upon the alternative selected for the project, construction staging would be implemented to minimize impacts on navigable waters; the need for temporary easements and/or temporary relocation of the floating dock would be determined in consultation with property owners; property owners would be fairly compensated for any permanent loss; and short-term restrictions of the navigation channel would be proactively communicated with the USCG, USACE, CTDEEP, the Town of Westport (i.e., Harbormaster, Shellfish Commission) and other stakeholders.

Table 3-6: Summary of effects on navigable waters

Alternative	Navigation Clearance	Construction-Period Marine Travel Restrictions	Public Access to Water
No Build	No change	Intermittent for repairs	No change
Conservation	No change	Yes, intermittent	No change
Rehabilitation	Approx. 2-ft reduction in horizontal clearance (width)	Yes, intermittent	No change
On-Alignment Replacement	Increase in vertical clearance (height)*	Yes, intermittent	No change
Off-Alignment Replacement	Increase in vertical clearance (height)*	Yes, intermittent	No change

*Exact values would be vetted out at design level if chosen.

3.11 Wetlands

This section and Section 3.14 on Biological Environment are related and overlap because they assess the potential for the Proposed Action and project alternatives to impact aquatic and terrestrial natural resources in the project area. The resources analysis included in this section includes plant and animal species and areas within, and immediately adjacent to, the project site capable of providing suitable habitat and supporting ecological systems. Within this context, resources such as coastal waters, tidal wetlands, intertidal and subtidal mudflats and substrates, aquatic and terrestrial vegetation, and associated habitats that may be used by threatened, endangered, and special concern species are considered as part of the impact analysis.

While this section includes an assessment of potential impacts on tidal wetlands, including aquatic vegetation and substrate, Section 3.14 includes an assessment of potential effects on federal and state-listed species and their associated aquatic and terrestrial habitats.

Regulatory Setting

Under Executive Order No. 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and enhance and preserve the beneficial uses and quality of wetlands (Executive Order 11990, Protection of Wetlands, 42 F.R. 26961, 1977). USACE administers Section 404 of the CWA, which regulates activities resulting in the discharge of dredged or fill material into waters of the United States, including wetlands (USACE Regulatory Program Regulations, 33 CFR Parts 320-332, 1986). The State of Connecticut regulates the dredging, erection of structures and placement of fill in tidal, coastal, or navigable waters and activities in tidal wetlands (Regulation of Dredging, Erection of Structures and Placement of Fill in Tidal, Coastal or Navigable Waters, 22a CGS § 22a-359, 1971; Tidal Wetlands Act, 22a CGS § 22a-28 et Seq., 1969). The Connecticut Tidal Wetland Act defines tidal wetlands as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marshes, swamps, meadows, flats, or other low lands subject to tidal action, *including those areas now or formerly connected to tidal waters*, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some, but not necessarily all, of a list of specific plant species provided in the Act" (Tidal Wetlands Act, 22a CGS § 22a-28 et Seq., 1969).

The high tide line (HTL) has served as the regulatory boundary and as the means for determining coastal jurisdiction for tidal, coastal, and navigable waters in the State of Connecticut since 1987. In 2012, the State of Connecticut amended the regulatory limits for the major tidal waterbodies to include the area from the high tide line (HTL) to the area up to the fixed elevation of the coastal jurisdictional line (CJL), which represents the elevation of the highest predicted tide (Public Act No. 12-101, An Act Concerning the Coastal Management Act and Shoreline Flood and Erosion Control Structures, 2012). Acceptable CJL elevations for each municipality were determined by the Connecticut Association of Land Surveyors and CTDEEP based on an evaluation of tidal elevation data estimated from the highest predicted tides found in Long Island Sound (CTDEEP, 2012). Any construction activity proposed at or waterward of the CJL requires authorization from CTDEEP prior to construction in accordance with the state Structures, Dredging and Fill and Tidal Wetlands statutes, as described above. The tidal wetland boundary represents the regulatory limit if wetland vegetation is present landward of the CJL and MHW (CTDEEP, 2020) and remains the federal jurisdictional boundary for waters of the United States; therefore, the USACE regulates any activity waterward of the HTL. USACE jurisdiction extends to the outer limits of adjacent wetlands when adjacent non-tidal wetlands/waters are present (USACE, 2012b).

Methodology

Information regarding the presence, classification, and characteristics of wetlands in the study area was obtained from a combination of online data sources, onsite observations, and delineation efforts. Wetland classifications were obtained from USFWS National Wetland Inventory (NWI) online mapping and were verified during the onsite wetland delineation, which was conducted in July 2017. The study area for wetlands encompassed approximately 500 feet upstream and downstream of the bridge, and along the approaches on either side (see Figures 3-5A and 3-5B).

Federal wetland resources were delineated according to the USACE Wetland Delineation Manual (USACE, 1987) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2012a). Tidal wetland limits were delineated in accordance with CGS Section 22a-29 (Tidal Wetlands) and Section 22a-359 (Tidal, Coastal or Navigable Waters). Tidal vegetation was recorded in field notes by wetland scientists. As indicated in Section 3.10, tidal elevation information was obtained from permit documentation for a recently approved infrastructure project downstream of the Cribari Bridge. The HTL was determined to be the highest

tide of record during the last calendar year using tidal data records for the Saugatuck River, Station ID 8468191 (NOAA, 2016). The CJL for the Town of Westport was obtained from CJL elevations determined by the CTDEEP (CTDEEP, 2012).

Since the wetland delineation was conducted in 2017, field confirmation of resource areas would be necessary prior to any permitting activities necessary for construction. The 2017 field delineation, augmented by current information from the NWI, provides sufficient information for the comparative assessment of potential impacts consistent with information provided in this document.

Existing Conditions

The Saugatuck River is a state and federal resource, which is classified as Estuarine and Marine Deepwater (E1UBL) habitat by the USFWS under the NWI Program (USFWS, 2019). A portion of the study area, north of the bridge on the eastern shoreline, is classified by the NWI as Estuarine and Marine Wetland habitat (E2EM1P). Both intertidal (mud flats and tidal wetlands) and subtidal (deeper river channel) waters occur in the study area. The substrate in intertidal habitat is described as flooded and exposed to tides, while the substrate in subtidal habitat is continuously covered with tidal water (i.e., located below extreme low water) (Federal Geographic Data Committee, 2013). As part of an estuarine system, the sustaining hydrology of these wetlands is based upon the tidal regime. Tidal wetlands are flooded by waters twice a day and are generally vegetated with tidal emergent plant species. The intertidal and subtidal mudflat areas are classified as “unconsolidated bottom” due to material consisting of both stones and finer particles, such as sands and silts.

Field observations confirmed the system is estuarine with an unconsolidated bottom. On the eastern bank of the river, there are federal and state tidal wetlands. There are no federal or state tidal wetlands on the western banks of the river in the vicinity of the bridge, which is developed to the waterline with marinas, restaurants, sidewalks and parking lots, and sections of bulkhead. Additionally, no inland wetlands were encountered within the immediate study area.

Based upon surveys conducted by CTDOT for the project and/or information obtained from CTDEEP online resources, tidal elevations for the project area are as follows:

- Mean Low Water: -3.67 feet NAVD88
- Mean High Water: 3.32 feet NAVD88
- High Tide Line/Highest Astronomical Tide: 5.15 NAVD88
- Coastal Jurisdictional Line: 5.3 feet NAVD88

The wetland delineation conducted in July 2017 documented the presence of vegetated tidal wetlands, hydric soils, and mudflats on the eastern side of the Saugatuck River, both north and south of the bridge. Mudflats extend outward towards the channel on both sides of the river (80 plus feet in width). Tidal wetlands and mudflats identified and mapped by CTDEEP within these limits are shown in Figure 3-5B. Tidal wetland shelf is located along the eastern shoreline of the river, north of the bridge. The subtidal zone is comprised of a mudflat that extends westward into the river approximately 80 feet from the vegetated edge of the tidal wetland and is more extensive to the southeast where the river broadens in width, with the entire area exposed at low tide. The wetland shelf itself is also about 80 feet wide and gradually transitions to the upper tidal fringe in a typical zonation of a tidal wetland – with Smooth Cordgrass *(Spartina alterniflora)* to Saltmeadow Cordgrass *(S. patens)* from the lower tidal area to High-Tide Bush *(Iva frutescens)* in the upper tidal area.

Tidal wetland plant communities in the study area are typical of salt marshes in New England and are dominated by Saltmeadow Cordgrass and Smooth Cordgrass. Sea Lettuce *(Ulva)* was found growing in the mudflats, located on the east side of the river, north and south of the bridge. Other tidal wetland plant species identified in the study area include High-Tide Bush, Black Grass *(Juncus Gerardi)*, Sea Lavender *(Limonium carolinianum)*, Seaside Goldenrod *(Solidago sempervirens)*, and Common Glasswort *(Salicornia spp.)*.

The wetland is not disturbed or littered with trash and is assessed as healthy and is representative of a typical tidal wetland in the State of Connecticut. The tidal wetland systems in the study area perform many functions including flood flow alteration, sediment stabilization, fish and shellfish habitat, shoreline stabilization, wildlife habitat (avian and crustacean species), and nutrient retention. The wetlands also exhibit other values, including recreation and visual quality/aesthetics.

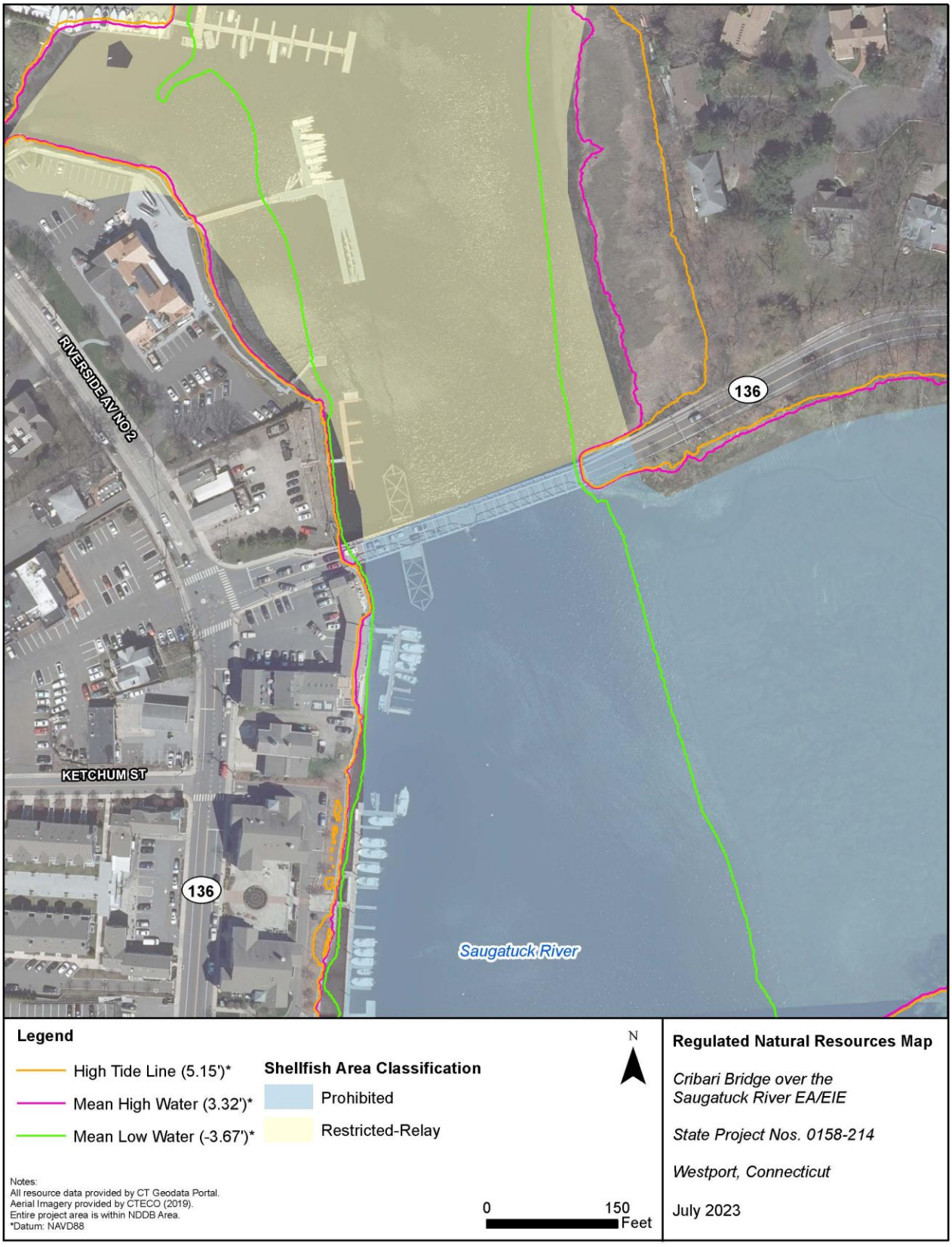

Figure 3-5A: Map of Natural Resource Area

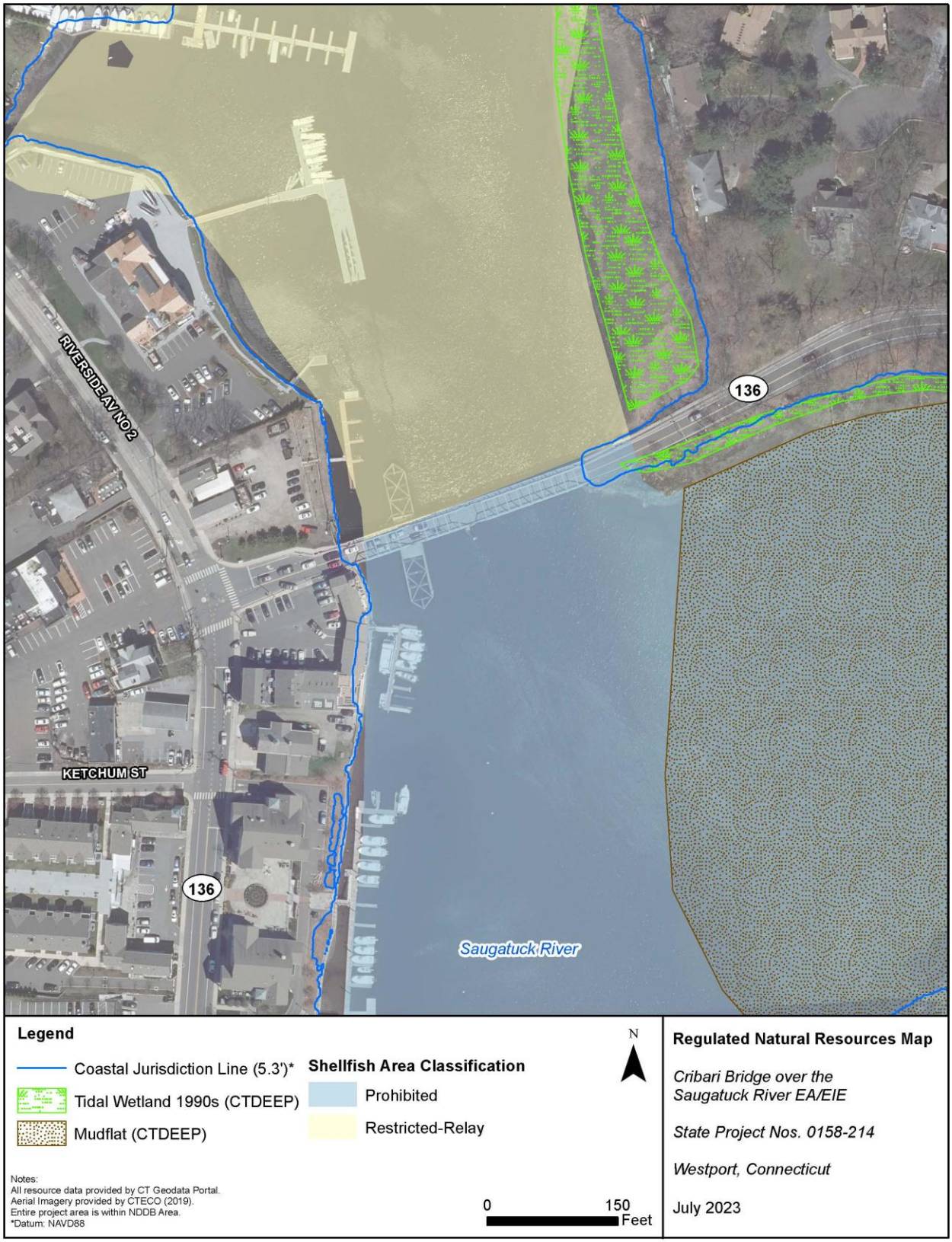

Figure 3-5B: Map of Natural Resource Areas

Impacts

No Build Alternative

Under the No Build Alternative, no changes would occur, and therefore, no immediate direct or indirect impacts on tidal wetlands, mudflats, or estuarine waters are anticipated. It is assumed that any future maintenance activities would not impact tidal wetlands or mudflats due to avoidance of these resources; however, work could potentially be conducted within estuarine waters.

Conservation Alternative

The Conservation Alternative would have both temporary and permanent impacts on wetlands. Structural repairs to Piers 2 and 3 would include in-water work and the use of barges/trestles to facilitate construction equipment access, which has the potential to temporarily affect wetlands. The reconstruction of Piers 2 and 3 would require new support piles, which have the potential to permanently impact wetlands. No improvements are planned for the fender system.

To facilitate construction, a temporary bridge would be constructed to the north of the existing bridge to divert traffic during construction. The temporary bridge would require one pier to be constructed in tidal wetlands and a second pier within mudflats on the eastern side of the river. The remaining piers would be within subtidal estuarine (i.e., navigable) waters. Once work is complete, the temporary bridge would be removed without causing any additional impacts to wetland resources. In addition, spudded work barges would be required for the repair of damaged bridge components and truss members. The reconstruction of Piers 2 and 3 would require new support piles and the use of barges/trestles to facilitate access to construction equipment.

The temporary bridge and trestles would be in place for the anticipated construction duration. As a result, the existing tidal wetland to the north of the bridge, and to some extent the mudflats to the west of this tidal wetland, would be shaded for part of the day by the trestle decks. While this shading has the potential to cause short-term stunted growth of the tidal vegetation, a permanent adverse impact on the wetland or its function and values is not anticipated.

A detailed assessment of impacts would be undertaken during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques and potential mitigation measures. Measures to avoid and minimize impacts to wetland resources and best management practices would be evaluated in consultation with federal, state, and local agencies and could include measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.

Rehabilitation Alternative

The Rehabilitation Alternative would also have both permanent and temporary impacts on wetland resources, similar to the Conservation Alternative. Permanent impacts would include rehabilitation of Piers 2 and 3, and replacement and expansion by two horizontal feet of the fender system associated with the mechanical pier. Piers 2 and 3 would not be expanded.

Like the Conservation Alternative, a temporary bridge would be constructed to the north of the existing bridge to divert traffic during construction. This temporary bridge would require one pier to be constructed in tidal wetlands,

and a second pier within mudflats on the eastern side of the river, with the remaining piers located within subtidal estuarine (i.e., navigable) waters. Once work is complete, the temporary bridge would be removed without causing any additional impacts to wetland resources. The reconstruction of Piers 2 and 3 would require new support piles and the use of barges/trestles to facilitate access to construction equipment. Spudded work barges would be required for the repair of damaged bridge components and truss members. This alternative would also require that the temporary bridge and trestles be in place for the anticipated construction duration, which would cause short-term shading of the existing tidal wetland to the north of the bridge. While this shading has the potential to cause short-term stunted growth of the tidal vegetation, a permanent adverse impact on the wetland or its function and values is not anticipated.

A detailed assessment of impacts would be undertaken during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques and potential mitigation measures. Measures to avoid and minimize impacts to wetland resources and best management practices would be evaluated in consultation with federal, state, and local agencies and could include measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.

On-Alignment Replacement Alternative (Preferred Alternative)

The On-Alignment Replacement Alternative would have both permanent and temporary impacts on wetland resources. This alternative would consist of a full replacement, and as such, it would require all new piers. Pier 2 of the existing bridge, currently a rest pier to the east of the channel, would be removed and replaced with a new larger mechanical pier. The greater footprint of the new mechanical pier would result in a permanent loss of river bottom habitat. Two new rest piers would be installed on either side of the new mechanical pier, each of a larger size than the existing rest pier. All new piers would be in new locations, other than the western pier, which would utilize the existing mechanical pier location. A new, and larger, fender system would be installed around the new mechanical pier, which would be pile supported. The impact from the footprint of these piles would also result in a loss of river bottom habitat. Widening of the eastern approach to accommodate a wider roadway cross-section would cause impacts to tidal wetlands to the north and south of the approach. The existing Pier 3, on the east side of the river, would be removed, offsetting some, but not all, of the impact of the new piers and piles. The permanent impacts associated with this alternative would be greater than those of the Conservation and Rehabilitation Alternatives, due to the larger structures in new locations.

Encroachments into tidal wetlands and other regulatory boundaries would occur as a result of temporary impacts during construction. Like the Conservation and Rehabilitation Alternatives, a temporary bridge would be constructed to the north of the existing bridge to manage traffic during construction. The temporary bridge would require the location of one pier in tidal wetlands and a second pier within mudflats on the eastern side of the river. The remaining piers would be located within subtidal estuarine (i.e., navigable) waters. The temporary bridge would be removed upon completion of work without causing any additional impacts to wetland resources.

A work trestle would be constructed north of the existing bridge from the eastern approach to the new mechanical pier location to facilitate construction access. The construction of the new piers would require temporary marine enclosures for containment to manage in-water work and the use of barges/trestles to facilitate construction equipment access and dewatering of the coffer dams associated with the construction of the abutments and wingwalls. Barges would still be used in other locations to accommodate the construction of the other piers/spans. Temporary impacts associated with this alternative would be greater than the Conservation and Rehabilitation

Alternatives, due to the additional containment to support the larger in-water structures, a greater amount of work in new locations, and more extensive use of barges to facilitate new construction and existing bridge removal.

This alternative would require the temporary bridge and trestles to be in place for the duration of construction. As a result, this alternative would cause shading of the existing tidal wetland to the north of the bridge. The temporary bridge and work trestles would be in place for a longer duration than the Conservation and Rehabilitation Alternatives and have the potential for greater effects on tidal vegetation. Although potential effects may be more pronounced under this alternative, it is anticipated that wetland vegetation would fully recover, and not constitute a permanent adverse impact on the wetland or its function and values.

A detailed assessment of impacts would be undertaken during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques and potential mitigation measures. Measures to avoid and minimize impacts to wetland resources and best management practices would be evaluated in consultation with federal, state, and local agencies and could include measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.

Off-Alignment Replacement Alternative

The Off-Alignment Replacement Alternative would have both permanent and temporary impacts to wetland resources, and more impacts than any of the other alternatives. Like the On-Alignment Replacement Alternative, this alternative would consist of a full replacement, and it would require all new piers. Unlike the other alternatives, the entire existing bridge structure, including all in-water structures (i.e., piers, piles, abutments), would be removed. The new bridge would include the construction of a new larger mechanical pier, the installation of two rest piers to either side of the mechanical pier, and a fourth support pier to the north of the existing eastern approach. New abutments would also be constructed at the approaches to each end of the bridge. The greater footprint of the three new piers to the west, along with their new locations, would result in a permanent loss of river bottom habitat greater than any of the other alternatives. The easternmost support pier would be located within a tidal wetland area, which would cause the greatest impacts to tidal wetlands of any alternatives. New, and larger, fender systems would be installed around the new mechanical pier and western rest pier, which would be pile supported. The impact from the footprint of these piles would result in an additional loss of river bottom habitat. All piers of the existing bridge would be removed, and the river bottom would be restored naturally, offsetting some of the impact of the new piers and piles. However, a net loss would still result.

Unlike the other alternatives, a temporary bridge would not be required for traffic management during construction. A work trestle would be constructed north of the proposed bridge from the eastern approach to the new mechanical pier location to facilitate construction access. This trestle would be used to the extent practicable for the removal of the existing bridge as well. The construction of the new piers and abutments would require temporary sheet pile containment to manage in-water work and the use of barges/trestles to facilitate construction equipment access and dewatering of the coffer dams.

This alternative would require the temporary trestle to be in place for the duration of construction; however, unlike the other alternatives, this alternative would only require a single trestle. As a result, this alternative would cause very little shading of the existing tidal wetland to the north of the bridge and would have the least potential for shading impacts. It is not anticipated to constitute a permanent adverse impact on the wetland or its function and values.

Barges would still be used in other locations to accommodate construction where trestle access was not sufficient. Barges would be spudded to the river bottom, causing temporary impacts; however, it is anticipated that the temporary impacts from pile/spud holes would be restored via regular tidal fluctuations and sediment transport with no adverse impact on this habitat. Although a temporary bridge would not be required, temporary impacts associated with this alternative would still be greater than all the other alternatives due to the more extensive marine enclosure containment required for in-water work, the greatest amount of work in a new location, and extensive use of barges to facilitate construction of the new bridge and removal of the existing bridge.

A detailed assessment of impacts would be undertaken during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques and potential mitigation measures. Measures to avoid and minimize impacts to wetland resources and best management practices would be evaluated in consultation with federal, state, and local agencies and could include measures such as minimization of barge movements, the use of turbidity curtains around the marine enclosures, collection and management of stormwater/dewatering water during construction, and use of work trestles.

SUMMARY OF POTENTIAL IMPACTS

There would be no change to existing conditions under the No Build Alternative. Under each of the other alternatives, there would be temporary and permanent impacts. The permanent impacts associated with the Replacement Alternatives would be greater than those of the Conservation and Rehabilitation Alternatives, given the larger footprint. The Off-Alignment Replacement Alternative would result in the largest net impact to river bottom habitat due to the construction of three new piers whose impact would be partially offset by the complete removal of the existing piers. Wetlands would be allowed to naturally restore from temporary impacts under each of the alternatives. Wetland and watercourse impacts would be avoided and minimized during design, and as noted above, a detailed assessment of impacts would be undertaken in consultation with federal, state, and local agencies during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques and potential mitigation measures.

3.12 Floodplains

This section presents existing conditions of floodplains at the project site and assesses potential effects to floodplains associated with project alternatives.

Regulatory Setting

Both federal and state wetland regulations address the protection of floodplains. Federal regulations protecting floodplains include Section 404 of the CWA (Clean Water Act, 33 U.S.C. §1251 et Seq., 1972b), Executive Order No. 11988, Floodplain Management (Executive Order 11988, Floodplain Management, 42 F.R. 26951, 1977) as amended by Executive Order No. 13690 (Executive Order 13690, Establishing a Federal Flood Risk Management Standard, 80 FR 6425, 2015), and 23 CFR Part 650 Subpart A, FHWA's policies on floodplain encroachment (Location and Hydraulic Design of Encroachments on Flood Plains, 1979). At the state level, any new or substantially improved structures, obstructions, or encroachments located within the floodplain are regulated under the Tidal Wetlands Act, Inlands Wetlands and Watercourses Act and Floodplain Management Act (Flood Management Act, 25 CGS § 68b et Seq., 2004; Inland Wetlands and Watercourses Act, 22a CGS-36 § 22a-36 et Seq.., 2015; Tidal Wetlands Act, 22a CGS § 22a-28 et Seq., 1969).

For State of Connecticut agency actions that take place in a floodplain or change the hydraulic characteristic of the watercourse, a Flood Management Certification with CTDEEP is needed to verify all elements of the project. Construction and operation activities must comply with Connecticut and FEMA floodplain management standards and criteria, in accordance with the CTDOT Drainage Manual (CTDOT, 2001). CTDOT would apply for a Flood Management Certification during the permitting phase of the project, in coordination with the application for a Tidal Wetlands Structures Dredge and Fill Permit and 401 Water Quality Certification.

Methodology

Floodplain resources were investigated through a review of FEMA National Flood Insurance Program (NFIP) mapping of the project limits under the various alternatives. The study area for assessing potential floodplain impacts was defined by the area and volume affected by each alternative and temporary construction-related structures below the 100-year BFE. Stillwater, total water level, and BFE were obtained from the FEMA Flood Insurance Study (Volume 1 of 6), Study No. 09001CV001C, revised 10/16/2016 (see Appendix E of Appendix L for the FEMA study). Note that the elevations recorded on the FEMA Flood Insurance Rate Map Panel 09001C0551G (effective 7/8/2013; see Appendix D of Appendix H for the FEMA Firmette) for the site are based on vertical datum NAVD88.

Existing Conditions

The Cribari Bridge is located within Zone AE, defined as the 100-year floodplain or as areas subject to the 1-percent annual chance of flood, where BFEs have been determined. The BFE is the statistical elevation of the stillwater level relative to a specified datum with the effects of wave action, if any. The BFE refers to the elevation of surface water resulting from a flood that has a 1-percent chance of equaling or exceeding that level in any given year, also called the 100-year flood. The stillwater elevation (SWEL) is the level of the water, not including the effects of wind-generated waves, but including the effects of astronomical tides and storm surge on the water surface (FEMA, 2016). Upstream of the bridge, the current FEMA BFE is 10 feet (NAVD88) and immediately downstream of the bridge, the current FEMA BFE is 13 feet (NAVD88) (see Appendix D of Appendix H for the FEMA Firmette). The bridge is located just north of what FEMA has defined as the Limit of Moderate Wave Action. For advisory purposes, this boundary was added in coastal Zone AE areas subject to moderate wave action. Therefore, the downstream FEMA BFE of 13 feet (NAVD88) is the stillwater elevation and effects of wave setup. The upstream FEMA BFE of 10 feet (NAVD88) is the stillwater elevation only. Further downstream, south of I-95, is designated as Zone VE, defined as a coastal flood zone subject to the 1-percent annual chance flood with additional hazards due to storm-induced velocity wave action with BFEs determined. There is no floodway established at the bridge crossing.

The Cribari Bridge is located within the tidal reach of the Saugatuck River approximately two miles upstream from the river's mouth into Long Island Sound, and approximately 600 feet upstream of the I-95 Bridge. As such, the bridge is influenced by both riverine events and coastal storm surges. The Bridge Street centerline profile is approximately 11.9 feet (NAVD88) at both abutments and 13 feet (NAVD88) along the swing pier. The low chord of the bridge is approximately 8.4 feet (NAVD88). Therefore, portions of the superstructure and all substructure elements are below the BFE. The mechanical and electrical equipment used to open and close the swing bridge is located between elevation 6.0 feet and 8.4 feet (NAVD88). The 10-year tidal flood elevation at the bridge is approximately 8.1 feet (NAVD88) (see Appendix E of Appendix L for the FEMA study). The machinery and electrical equipment are exposed to flood flows and have been damaged as a result of previous flooding in storms of magnitude of 10-year or less return interval.

Impacts

No Build Alternative

The No Build Alternative would not result in any improvements to the existing conditions at the bridge, and therefore, would not alter the current extent of flood storage capacity of the floodplain. The current hydraulic opening – i.e., the open area beneath the bridge to convey the watercourse – would remain the same.

Conservation Alternative

This alternative would restore the bridge to a condition similar to that which resulted from the 1990s rehabilitation, and the same conditions as the No Build Alternative would apply in the floodplain post construction.

This alternative would require a temporary bridge constructed to the north, which would be in use for approximately two to three years. The profile for the temporary bridge would be above the current FEMA BFE and could tie into the existing roadway outside the floodplain limits. The substructure piers would be within the Saugatuck River. Barges and/or temporary work trestles would be within the floodplain. The floodplain near the Cribari Bridge has minimal flood storage capacity compared to the overall floodplain. Therefore, no adverse impact on flood storage is anticipated as a result of the temporary structures.

Rehabilitation Alternative

This alternative would be more intensive than the Conservation Alternative in addressing more deficiencies. The existing ornamental trusses would be widened requiring the reconstruction of the sidewalk and its support framing, and minor widening of the east abutment seat and Pier 2 cap. The centerline profile of Bridge Street and the low chord would not be altered, and therefore portions of the superstructure would remain lower than the current FEMA BFE. The substructure elements would be below the current BFE. However, the floodplain near the Cribari Bridge has minimal flood storage capacity when compared to the overall expansive contiguous coastal floodplain. Therefore, no adverse impact on flood storage is anticipated.

This alternative would require a temporary bridge constructed in the same location as previously described in the Conservation Alternative. The floodplain near the Cribari Bridge has minimal flood storage capacity compared to the overall floodplain. No adverse impact on flood storage is anticipated as a result of the temporary structures.

On-Alignment Bridge Replacement Alternative (Preferred Alternative)

Permanent beneficial impacts to the floodplain are anticipated from the removal of the existing structure and replacement with a new bridge. The new superstructure, mechanical equipment, and upper portions of the substructure would be above the current FEMA BFE. Portions of the bridge piers and abutments would be below the 100-year BFE and would be larger in area than the current substructure. However, raising the superstructure above the current FEMA BFE would provide a larger hydraulic opening that could offset the larger substructure elements. The floodplain near the Cribari Bridge has minimal flood storage capacity compared to the overall floodplain. Therefore, no adverse impact on flood storage is anticipated.

This alternative would require a temporary bridge constructed in the same location as previously described for the Conservation and Rehabilitation Alternatives. However, it would be utilized for two and one-half years. Barges and/or

temporary trestles could also be utilized as described in the Conservation Alternative. The floodplain near the Cribari Bridge has minimal flood storage capacity compared to the overall floodplain. Therefore, no adverse impact on flood storage is anticipated as a result of the temporary structures.

Off-Alignment Bridge Replacement Alternative

This alternative would be similar to the On-Alignment Replacement Alternative but would be constructed to the north of the existing structure. Permanent beneficial impacts to the floodplain are anticipated from the removal of the existing structure and its replacement with a new bridge. The bridge would be approximately 200 feet longer than the On-Alignment Replacement Alternative providing a larger hydraulic opening.

A temporary bridge would not be required for this alternative, as traffic would remain on the existing bridge during construction. Barges and/or temporary trestles could be utilized for the construction of the new bridge and demolition of the existing bridge as described in the Conservation Alternative. The floodplain near the Cribari Bridge has minimal flood storage capacity compared to the overall floodplain. Therefore, no adverse impact on flood storage is anticipated as a result of the temporary structures.

SUMMARY OF POTENTIAL IMPACTS

The No Build Alternative would not alter existing conditions. The Conservation and Rehabilitation Alternatives' temporary structures are not anticipated to adversely impact flood storage. Permanent beneficial impacts to the floodplain are anticipated due to the On-Alignment and Off-Alignment Replacement Alternatives providing a larger hydraulic opening compared to the current bridge, with similar temporary impacts as those for the Rehabilitation Alternative. There would be no overall permanent loss of the flood storage capacity along the Saugatuck River under any of the alternatives. Depending upon the alternative selected for the project, channels and embankments would be assessed during design and instabilities identified (or anecdotally provided) within the channel or along the embankments would be addressed as part of final design, and a more detailed assessment of potential impacts and identification of any necessary mitigation measures would be conducted during the permitting process.

3.13 Coastal Resources

This section presents existing conditions for coastal resources at the project site and addresses anticipated changes to coastal resources associated with project alternatives.

Regulatory Setting

Passed in 1972, the Coastal Zone Management Act (CZMA) established a national program aimed at coordinating federal and state management of coastal resources by taking a comprehensive approach to resource use, economic development, and natural resource conservation (Coastal Zone Management Act, 1972). Federal resources are made available to states that participate, develop, and implement federally approved coastal zone management plans. The state's Coastal Management Program is administered by CTDEEP and is approved by NOAA under the federal CZMA.

Pursuant to Section 307 of the CZMA, federal agency actions – including federally funded projects and federal permit activities – affecting any coastal use or resource in Connecticut must be consistent with Connecticut's approved Coastal Management Program. These policies are contained in the Connecticut Coastal Management Act (CCMA)

(Connecticut Coastal Management Act, 1979). The coastal zone in Connecticut includes both the coastal area and the coastal boundary. CCMA and CZMA Policy do not dictate federal and state agency decisions regarding their own assets.

The Coastal Management Program also regulates work in tidal, coastal, and navigable waters and tidal wetlands under CCMA, the Structures Dredging and Fill statutes, and the Tidal Wetlands Act (Coastal Zone Management Act, 1972; Regulation of Dredging, Erection of Structures and Placement of Fill in Tidal, Coastal or Navigable Waters, 22a CGS § 22a-359, 1971; Tidal Wetlands Act, 22a CGS § 22a-28 et Seq., 1969). Development of the shoreline is regulated at the local level through municipal planning and the zoning boards and commissions under the policies of the CCMA, with technical assistance and oversight provided by Program staff. The Proposed Action is not subject to local review, but a Coastal Consistency Review would be conducted as part of an application for a Structures, Dredge and Fill, and Tidal Wetlands Permit from CTDEEP.

CCMA has identified 14 coastal resources within the land and water areas of the coastal boundary. Coastal resources potentially affected by a project could be on-site, adjacent, or further removed from the project site. The 14 CCMA Coast Resources include: nearshore waters, offshore waters, beaches and dunes, coastal bluffs and escarpments, coastal hazard areas, estuarine embayments, developed shorefront, freshwater wetlands and watercourses, intertidal flats, islands, rocky shorefront, shellfish concentration areas, shorelands, and tidal wetlands.

Methodology

Coastal land and water resources within the coastal boundary were initially identified through a review of the CTDEEP online mapping. On-site inspections and field delineation were then undertaken to verify resources and document any other coastal resources not included in the CTDEEP online mapping. Information was gathered for the Saugatuck River coastal resources within 50 feet of the construction envelope.

Existing Conditions

The Town of Westport is located along Connecticut's coast, and the Cribari Bridge is located within the coastal boundary. The CJL elevation for the Town of Westport is 5.3 feet NAVD88. Coastal resources located in the immediate vicinity of the bridge include tidal wetlands, intertidal flats, the coastal flood hazard area (100-year floodplain), estuarine embayment, and shellfish areas. Tidal wetlands are located on the eastern bank of the river, immediately north of the bridge. Intertidal flats are located primarily to the northeast of the bridge on the eastern shore but also extend slightly under the bridge. The coastal flood hazard area is associated with the river from bank to bank and is described more in Section 3.12.

Shellfish areas are located where mudflats exist on the eastern side of the river. The western side of the river lacks coastal resources, other than the coastal flood hazard zone. The Saugatuck River at the site of the bridge is designated as subtidal waters, an estuarine system.

Impacts

<u>No Build Alternative</u>

Under the No Build Alternative, no changes would occur; therefore, no immediate direct or indirect impacts on coastal resources would be anticipated. Maintenance activities would be undertaken in ways to avoid and minimize impacts to coastal resources to the extent practicable and through coordination with regulatory agencies and stakeholders.

Ultimately, this alternative would be consistent with the CCMA policies and would not have any adverse impacts on coastal resources.

Conservation and Rehabilitation Alternatives

The Conservation and Rehabilitation Alternatives would be consistent with all CCMA policies. While there would be minimal encroachments on tidal wetlands, intertidal flats, estuarine embayment, and the coastal flood hazard area as a result of the widening of the east abutment and the installation of the temporary bridge and trestles, these improvements would be consistent with the CCMA policy for transportation projects to use "rehabilitation, upgrading and improvement of existing transportation facilities as the primary means of meeting transportation needs in the coastal area" (Connecticut Coastal Management Act, 1979). However, it is important to note that CCMA and CZMA Policies do not dictate federal and state agency decisions regarding their own assets. The rehabilitation activities described above for this alternative would be undertaken in ways to avoid and minimize impacts to coastal resources to the extent practicable and through coordination with regulatory agencies and stakeholders; therefore, any impacts would be insignificant.

On-Alignment Replacement Alternative (Preferred Alternative)

Full replacement options are not fully consistent with the CCMA policy for transportation projects, which prioritizes rehabilitation over replacement. The On-Alignment Replacement Alternative would include permanent and temporary encroachments on tidal wetlands, intertidal flats, estuarine embayments, shellfish beds, and the coastal flood hazard area as a result of the new bridge structure and temporary structure. However, it would not disrupt the functions and values of these resources and would not impede the functioning of intertidal flats as a nutrient source and reservoir. Both Replacement Alternatives would be constructed in ways to avoid and minimize impacts on coastal resources to the extent practicable and through coordination with regulatory agencies and stakeholders.

Off-Alignment Replacement Alternative

Like the Preferred Alternative, the Off-Alignment Replacement Alternative is not fully consistent with the CCMA policy for transportation projects and would include permanent and temporary encroachments on tidal wetlands, intertidal flats, estuarine embayments, shellfish beds, and the coastal flood hazard area. However, these resources were disturbed in the 1990s for the bridge rehabilitation project and accompanying temporary bridge installation and removal. These impacts would occur north of the existing bridge on the east and west sides of the river and to the river bottom habitat at the location of the new piers. Although this alternative would have both permanent and temporary impacts on coastal resources, it would still not disrupt the overall functioning or value of the resources.

SUMMARY OF POTENTIAL IMPACTS

There would be no overall permanent loss of coastal resources under any of the alternatives, and resources would be allowed to naturally restore from temporary impacts under the Build Alternatives. This preliminary assessment indicates that the Proposed Action is consistent with the CCMA's policies for the protection of coastal resources and uses as well as its policies on development. Impacts on coastal resources would be avoided and minimized to the extent practicable through coordination with appropriate regulatory agencies and stakeholders, including CTDEEP. As described above, a more detailed Coastal Consistency Review would be conducted as part of the permitting process for any Build Alternative.

3.14 Biological Environment

The following subsections present existing conditions for flora and fauna – and threatened and endangered species – in the vicinity of the project site and assesses potential effects associated with Proposed Action alternatives.

3.14.1 Flora and Fauna

Regulatory Setting

The Fish and Wildlife Coordination Act, as amended through P.L. 116-188 requires federal agencies, and any entity requiring any federal permit or license, to consult with the federal and state agencies responsible for fish and wildlife resource management, regarding projects that could affect these resources (Fish and Wildlife Coordination Act, 16 U.S.C.§ 661 et Seq., 1934). For the Cribari Bridge study area, these agencies include the USFWS, NOAA NMFS Greater Atlantic Regional Fisheries Office (GARFO), Connecticut Department of Agriculture (DOA) Bureau of Aquaculture, CTDEEP Natural Diversity Data Base (NDDB), CTDEEP Fisheries Division, and CTDEEP Wildlife Division.

The NMFS GARFO Habitat and Ecosystem Services Division (HESD) serves as the regulatory authority providing conservation recommendations on Essential Fish Habitat (EFH), pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (FCMA), including the 1996 Sustainable Fisheries Act amendments to the FCMA, and trust resources (i.e., living marine resources and their habitats) (Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801 et Seq., 1976).

The NMFS GARFO Protected Resource Division (PRD) serves as the regulatory authority for the Endangered Species Act (ESA) of 1973 Section 7 marine species and their habitat (Endangered Species Act; 16 U.S.C. § 1531 et Seq., 1973) and the USFWS is the regulatory authority for land-based threatened and endangered flora and fauna discussed in Section 3.14.1. This includes the Migratory Bird Treaty Act (MBTA) of 1918 (Migratory Bird Treaty Act, 16 U.S.C. § 703 et Seq., 1918) and the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (Bald and Golden Eagle Protection Act, 16 U.S.C. § 668 et Seq., 1940).

The USEPA provides regulatory guidance for the protection of aquatic resources through the CWA. Section 404(c) of the CWA regulates shellfish beds relative to dredge or fill material in waters of the U.S. (Clean Water Act, 33 U.S.C. §1251 et Seq., 1972b). Shellfish habitat is protected at the state level through the Structures, Dredging, and Fill Act and the Tidal Wetlands Act (Regulation of Dredging, Erection of Structures and Placement of Fill in Tidal, Coastal or Navigable Waters, 22a CGS § 22a-359, 1971; Tidal Wetlands Act, 22a CGS § 22a-28 et Seq., 1969). The Connecticut DOA, in accordance with the National Shellfish Sanitation Program, has established classifications for shellfish growing areas to minimize health risks. Both the DOA and the Westport Shellfish Commission would be consulted as part the permitting process for actions requiring a Structures, Dredging, and Fill and Tidal Wetlands permit from CTDEEP.

Methodology

Information regarding the presence, classification, and characterization of wildlife and habitat resources was obtained from a combination of onsite research, observations during field visits, and via literature review. Species of Greatest Conservation Need (GCN) according to CTDEEP's Connecticut Wildlife Action Plan (CTDEEP, 2015) are defined as native mammals, birds, reptiles, amphibians, fish, insects, and mussels with low or declining populations that are in need of conservation; these species are noted as such throughout Section 3.14.1. EFH is broadly defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (Magnuson-Stevens Fishery

Conservation and Management Act, 16 U.S.C. § 1801 et Seq., 1976), and is considered in Section 3.14.1. Federal and state threatened or endangered species are discussed in Section 3.14.2.

The study area for this assessment encompasses an area approximately 50 feet from the project limits to include construction activities. Information was obtained from regulators through online information and direct coordination. Several existing resources were consulted, including NWI GIS mapping (USFWS, 2019) and GIS mapping from the Connecticut Environmental Conditions Online map viewer (CTDEEP, 2023b). The presence of EFH designations was identified using GIS data available from the NMFS EFH Mapper (NOAA, 2023b). Federally defined Critical Habitat was evaluated using both GIS data provided by NMFS and the USFWS Environmental Conservation Online System (ECOS) mapper (NOAA, 2023c; USFWS, 2023a). Connecticut-defined Critical Habitat was evaluated using GIS data provided by the CTDEEP NDDB and a review of the CT Coastal Resources Map (CTDEEP, 2023d, 2023b). Benthic resources were evaluated using GIS data on shellfish provided by CTDEEP (CTDEEP, 2023b). Fish, wildlife, and shellfish species were observed and noted during site inspections and field evaluations conducted in July 2017. Checklists of bird sightings submitted by birders to eBird, an online database maintained by Cornell University and the National Audubon Society, were reviewed for sightings within the study area (Cornell University, 2017). Additionally, the USFWS Information for Planning and Consultation (IPaC) was used to identify any federally listed species, critical habitat, and Birds of Conservation Concern potentially occurring in the study area (see Appendix O) (USFWS, 2021, 2023b). The Westport Shellfish Commission was also contacted for information regarding shellfish beds.

Existing Conditions

Plant Species and Communities

There is little plant life on the west bank of the river, which is developed to the waterline with marinas, restaurants, and accompanying amenities, such as sidewalks, parking lots, and bulkheads. On the eastern bank of the river, federal and state tidal wetlands to the north and south of Bridge Street were identified during the 2017 field investigations (see Section 0). Plant communities within the tidal wetland are typical of salt marshes of New England and are dominated by Saltmeadow Cordgrass and Smooth Cordgrass. Other tidal wetland plant species are discussed in Section 0. No submerged aquatic vegetation (SAV) (i.e., eelgrass) was recorded in the study area on NWI mapping (USFWS, 2019) or observed during the field evaluation.

In the uplands, vegetation on the eastern side of the river, north of Bridge Street, includes American Elm *(Ulmus Americana),* Pin Oak *(Quercus palustris)*, White Oak *(Quercus alba)*, and Black Cherry *(Prunus serotina)* in the canopy, as well as Groundsel *(Senecio vulgaris)*, and Poison Ivy *(Toxicodendron radicans)* in the understory. On the east side of the river, south of Bridge Street, upland vegetation in the canopy includes American Elm, Shagbark Hickory *(Carya ovata)*, Black Oak *(Quercus velutina)*[21], White Oak, and Black Cherry in the canopy, and Poison Ivy and Purpletop (*Triodia flava)* in the understory.

On the east bank of the river, north of Bridge Street, invasive species include Norway Maple *(Acer platanoides)*, Tree-of-heaven (*Ailanthus altissima*), and Black Locust *(Robinia pseudoacacia)* in the canopy, and Common Mugwort *(Artemisia vulgaris)*, Japanese Knotweed *(Polygonum cuspidatum)*, Garlic Mustard *(Alliaria petiolate)*, Oriental Bittersweet *(Celastrus orbiculatus)*, and Multiflora Rose *(Rosa multiflora)* in the understory. On the east bank of the river, to the south of Bridge Street, invasive species in the canopy include Norway Maple and Tree-of-heaven, and

[21] Identified in CTDEEP's *Connecticut Wildlife Action Plan* (2015) as "Important" GCN species. According to the Plan, "Important" species are "of regional or state conservation responsibility, or there is a lack of adequate life history information to make management decisions, or whose populations are at risk of declining in the absence of long-term (ten or more years) conservation effort to address the threats they face."

Multiflora Rose and Oriental Bittersweet in the understory. Little vegetation exists on the west bank of the river due to its highly developed nature.

Animal Species and Communities

The tidal wetlands and the upland buffer on the eastern side of the river provide suitable habitat for terrestrial and aquatic wildlife. Conversely, there is little terrestrial habitat on the western side of the river, which is highly developed. There are few sources of food, shelter, or suitable corridors for movement that would allow for opportunities for reproduction for wildlife on the western bank of the river in the study area. Likewise, aquatic species diversity is low on the western side of the river due to the developed riverbank and lack of an upland buffer or tidal wetlands.

Benthic Resources

Fish, wildlife, and shellfish species were observed during site inspections and field evaluations conducted in July 2017 and verified on CTDEEP shellfish area classification mapping and Town of Westport recreational shellfish mapping (CTDEEP, 2023e; Town of Westport, 2008). The Westport Shellfish Commission was also contacted for information regarding shellfish beds in the vicinity of the project area (A. Mozien, personal communication, July 24, 2020).

The intertidal zone extends from just above the HTL to just below the MLW elevation. A diverse community of aquatic organisms is found in this zone, dominated by various snails in the genera *Melampus* and *Littorina*, including the Ribbed Mussel *(Guekensia demissa),* three different Fiddler Crabs (*Uca spp.*), and several different Minnows *(Fundulus spp)*. During a July 2017 site visit, the following species were observed on the northeast side of the bridge in the intertidal zone: Oysters *(Ostreidae spp.*), Ribbed Mussels, Fiddler Crabs, Mud Snails *(Ilyanassa obsoleta)*, and Mud Crabs *(Xanthidae spp.)* On the southeast side of the bridge, Asian Shore Crabs and Green Crabs *(Carcinus maenas)*[22] were observed crawling under rocks along the shore. Soft-shelled clams were also observed on the southeast side of the bridge. The Connecticut DOA has classified the waters south of the Cribari Bridge as "Prohibited," as shown in Figure 3-5A. In prohibited areas, shellfish may only be harvested for seed oystering or depletion of the areas, and not for consumption. As shown in Figure 3-5B, the area north of the bridge is classified as "Restricted-Relay," meaning the aquaculture practices are allowed for relay or transplant activities only.

Avian Resources

The benthic and water column invertebrates and finfish sustain a diversity of waterfowl throughout the year in Saugatuck Harbor and the lower reaches of the Saugatuck River. The tidal wetlands and mudflats of the area provide opportunities for various shorebirds and waders during the migration and breeding season. Open water areas provide foraging habitat for various fish-eating birds such as Osprey *(Pandion haliaetus),* Cormorants *(Phalacrocorax spp)*, Mergansers *(Mergus spp)*, and Belted Kingfisher *(Megaceryle alcyon)*.

Avian species were observed and noted during July 2017 site inspections, and online resources were consulted for additional information as noted in this section. Avian species observed on the east side of the river within or adjacent to the tidal wetlands included Osprey , Great Egret (*Ardea alba*), Black-crowned Night Heron (*Nycticorax nycticorax*), Cormorant, Herring Gull (*Larus argentatus*), Belted Kingfisher, Red-tailed Hawk (*Buteo jamaicensis*), Great Black-backed Gull (*Larus marinus*), and Ring-billed Gull (*Larus delawarensis)*. The most prevalent terrestrial biota noted on

[22] Identified in CTDEEP's Connecticut Wildlife Action Plan (2015) as "Very Important" GCN species. According to the Plan, "Very Important" species are "of regional or state conservation responsibility and have populations that are at risk of declining in the absence of near-term (one to ten years) conservation efforts to address the threats they face."

the west side of the river are urban adapted species of birds, such as Rock Pigeon *(Columba livia)*, Mourning Dove *(Zendaida macroura),* European Starling *(Sturnus vulgaris),* American Robin *(Turdus migratorius),* American Crow *(Corvus branchyrhynchos),* Common Grackle *(Quiscala quiscula),* and House Sparrow *(Passer domesticus)*.

The USFWS IPaC identified an additional 22 Birds of Conservation Concern or other species that may warrant special attention, which are protected under the MBTA and have the potential to occur in or near the project area (see Appendix O). These birds include songbirds, shorebirds, waterfowl, and others that have known distributional ranges that overlap the project area, potentially breeding in or migrating through the region in which the project is located but are not confirmed to be present in the project area.

Herpetofaunal Resources

Few reptiles or amphibians likely find feeding, breeding, or cover habitats within the developed landscape of the study area. There is a complete lack of habitat for these species on the western side of the river. On the eastern side, wooded areas exist, but vegetation is sparse, and strata are primarily dominated by tree species and some herbaceous species. Potential reptiles present may be those species that are well-adapted to more developed settings, such as the Eastern Garter Snake (*Thamnophis sirtalis sirtalis*), Black Rat Snake (*Pantherophis alleghaniensis*), and even more likely, the Dekay's Brown Snake (*Storeria dekayi*), which is reportedly found in landscapes highly altered by humans (Hammerson, 2004). These species may potentially be found in the wooded upland areas along the eastern riverbank, especially north of the bridge. Turtles are unlikely in the study area, with the exception of the Northern Diamondback Terrapin (*Malaclemys terrapin*), due to the presence of tidal wetlands on the east side of the river. The Northern Diamondback Terrapin is a state species of Special Concern and is discussed in more detail in Section 3.14.2. Other less-tolerant species are not expected to inhabit the study area. Likewise, few amphibian species are expected, other than terrestrial species such as American Toad (*Bufo americanus*).

Mammalian Resources

Based on the types of habitat observed on the site, mammals expected to occur within the uplands along the eastern riverbank primarily include generalist species adapted to human-altered environments, such as Raccoon *(Procyon lotor),* Striped Skunk *(Mephitis mephitis),* Opossum *(Didelphis virginiana),* Red Fox (*Vulpes vulpes*), Coyote (*Canis latrans*), Woodchuck *(Marmota monax),* Gray Squirrel *(Sciurus caolinensis),* House Mouse *(Mus musculus),* and Norway Rat *(Rattus norveigicus)*. All nine bat species found in Connecticut are listed as "Most Important" state GCN species, of which eight species have some potential to occur within the study area including, the Northern Long-eared Bat *(Myotis septentrionalis;* NLEB*)*, Big Brown Bat *(Eptesicus fuscus)*, Little Brown Bat *(Myotis lucifugus),* Hoary Bat (*Lasiurus cinereus),* Silver-haired Bat *(Lasionycteris noctivagans)*, Eastern Red Bat *(Lasiurus borealis),* Tri-colored Bat *(Perimyotis subflavus),* and Eastern Small-footed Bat *(Myotis leibii)* (Bat Conservation International, 2023). Except for the Big Brown Bat, all species are included on Connecticut's List of Endangered, Threatened and Special Concern Species (CTDEEP, 2023f). Although the Indiana Bat *(Myotis sodalist)* may be present in Connecticut, the only federally listed bat species identified in the IPaC resource list with the potential to occur in the vicinity of the project is the Northern Long-eared Bat (USFWS, 2023c), which is discussed in further detail in Section 3.14.2.

Fisheries Resources

The Saugatuck River is a large coastal waterway and is estuarine within the study area. Open water estuarine habitat in the area of the bridge sustains a finfish community composed of forage species, higher trophic level species, including species of economic importance, species of conservation concern, migratory fish, and a number of game

species sought by recreational anglers. Representative species of both true marine finfish species and estuarine dependent species can be found in the lower reaches of the Saugatuck River where the river empties into Saugatuck Harbor and Long Island Sound.

According to the CTECO Fish Viewer (CTDEEP, 2023b) for Stony Brook in 2010, which is a small stream located approximately 0.6 miles north of the bridge, American Eel (*Anguilla rostrata*),[23] Bluegill Sunfish (*Lepomis macrochirus*), Largemouth Bass (*Micropterus salmoides*), and Central Mudminnow (*Umbra limi*)[24] were documented. The NOAA NMFS Greater Atlantic Regional Office was consulted regarding EFH protected under the FMCA. According to the NMFS EFH mapper (NOAA, 2023b) there are a number of species at various life stages potentially found within the study area. Fish species with suitable habitat within the study area are included in Table 3-7. No EFH Areas Protected from Fishing (EFHA) were mapped or present in the vicinity of the project.

Table 3-7: Fish Species in Study Area

Species Common Name	Scientific Name	Life Stages
Winter Flounder	*Pseudopleuronectes americanus*	Eggs, Juvenile, Larvae, Adult
Little Skate	*Leucoraja erinacea*	Juvenile, Adult
Ocean Pout	*Zoarces americanus*	Eggs
Atlantic Sea Herring	*Clupea harengus*	Juvenile
Red Hake	*Urophycis chuss*	Eggs, Larvae, Juvenile
Windowpane Flounder	*Scophthalmus aquosus*	Adult, Larvae, Eggs, Juvenile
Winter Skate	*Leucoraja ocellata*	Adult, Juvenile
Smoothhound Shark Complex	*Mustelus* (Atlantic Stock)	All
Sand Tiger Shark	*Carcharias taurus*	Neonate, Juvenile
Scup	*Stenotomus chrysops*	Eggs, Juvenile, Adult
Longfin Inshore Squid	*Loligo pealeii*	Adult
Bluefish	*Pomatomus saltatrix*	Adult, Juvenile
Atlantic Butterfish	*Peprilus triacanthus*	Eggs, Larvae, Adult, Juvenile
Summer Flounder	*Paralichthys dentatus*	Juvenile, Adult
Black Sea Bass	*Centropristes striata*	Juvenile

Source: (NOAA, 2023b)

The NMFS EFH mapper shows Long Island Sound and adjacent coastal areas mapped as Habitat Areas of Particular Concern (HAPC) for Summer Flounder *(Paralichthys dentatus)* due to the presence of SAV habitat (NOAA, 2023b). However, as noted in the EFH Mapper, SAV is dynamic in nature and detailed regional mapping of the HAPC is not available, requiring local mapping and observations to be used to determine the presence of SAV. As discussed above, no SAV was identified in the study area in the current NWI mapping or at the time of the 2017 field evaluations.

As noted in the subsections above, the following species identified in CTDEEP's *Connecticut Wildlife Action Plan* (CTDEEP, 2015) as GCN status with recorded observations on or in the immediate vicinity of the project area are noted in Table 3-8.

[23] Identified in CTDEEP's Connecticut Wildlife Action Plan (2015) as "Most Important" GCN species. According to the Plan, "Most Important" species are "of high regional or state conservation responsibility and have populations that are at risk of declining in the absence of immediate conservation efforts to address the threats they face."

[24] According to CTDEEP's Connecticut Wildlife Action Plan (2015), this species is non-native with a rapidly expanding range.

Table 3-8: Connecticut Wildlife Action Plan, Greatest Conservation Need Species in Project Area by Importance Level

Species Common Name	Scientific Name	Action Plan Importance Level
American Eel	*Anguilla rostrata*	Most Important
Winter Flounder	*Pseudopleuronectes americanus*	Most Important
Great Egret	*Ardea alba*	Very Important
Green crab	*Carcinus maenas*	Very Important
Windowpane Flounder	*Scophthalmus aquosus*	Very Important
Atlantic Butterfish	*Peprilus triacanthus*	Important
Atlantic Sea Herring	*Clupea harengus*	Important
Black Oak	*Quercus velutina*	Important
Black Sea Bass	*Centropristes striata*	Important
Diamondback Terrapin	*Malaclemys terrapin*	Important
Fiddler crab	*Uca spp.*	Important
Largemouth Bass	*Micropterus salmoides*	Important
Mud crab	*Xanthidae spp.*	Important
Ocean Pout	*Zoarces americanus*	Important
Osprey	*Pandion haliaetus*	Important
Sand Tiger Shark	*Carcharias taurus*	Important
Scup	*Stenotomus chrysops*	Important
Red Hake	*Urophycis chuss*	Important
Winter Skate	*Leucoraja ocellata*	Important

Source: (CTDEEP, 2015)

Impacts

No Build Alternative

Under the No Build Alternative, existing conditions would remain the same. Therefore, no adverse direct or indirect permanent impacts on plant species and communities, or any animal species or community, including fisheries and benthic communities, would be anticipated.

Conservation Alternative

The Conservation Alternative would include disturbance of upland and wetland vegetation, and temporary work within intertidal and subtidal habitats. As a result of the construction of the temporary bridge and work trestles to the north of the existing bridge and eastern approach way, upland woodland vegetation would be completely removed for construction of the temporary abutment, eastern-most pier, and the two eastern spans. The temporary work trestle adjacent to the existing bridge would also require vegetation clearing. However, the work trestle for the temporary bridge construction would not require vegetation clearing, since it would be farther to the west, and outside the edge of wooded areas. Once the temporary bridge reaches the tidal wetland areas, vegetation would not be removed under the span; however, tidal vegetation would be impacted by the installation of the second pier from the east. While the temporary trestles are in place during construction, the existing tidal wetland to the north of the bridge, and to some extent the mudflats to the west of this tidal wetland, would be shaded for part of the day by the

trestle decks. While this shading has the potential to cause short-term stunted growth of the tidal vegetation, a permanent adverse impact on vegetation or wildlife is not anticipated.

Once the temporary bridge is removed near the end of the project, it is assumed the upland woodland habitat would be stabilized with vegetation or potentially stone riprap material. This would constitute a permanent impact to the woodland vegetation community; however, this impact would be minor and have no adverse impacts on the populations of wildlife species expected to inhabit the area, including mammals, avian species, and herpetofauna, since these species are generally tolerant of fragmented habitats. The removal of invasive plant species would be conducted in accordance with CTDOT standard specifications.

The portion of tidal wetland impacted by the temporary pier would be restored to its pre-construction condition. Of the remaining temporary piers, one would be located in mudflat habitat, and the others within subtidal estuarine waters. Barges would use spuds to secure their position in the river. Regionally, the impacts discussed above are considered to be a small-scale and very limited impact to the systems as a whole.

The tidal wetlands and mudflats of the area provide foraging opportunities for various shorebirds and waders during the migration and breeding season. Construction of the temporary bridge may cause a temporary loss of foraging habitat due to the installation of the piers. However, the impacts would be very small, and the remaining habitat would be large enough to provide sufficient foraging habitat for the species expected to utilize these areas. While it is possible some species would utilize the area under the temporary bridge, it would depend on a variety of factors (i.e., penetration of sunlight under the bridge and species preferences and behaviors such as tolerance for being underneath a structure).

The only in-water work associated with the existing bridge would be the rehabilitation of Piers 2 and 3 with new support piles, which may involve the installation of temporary turbidity curtains. This, and all the action alternatives, would incorporate BMPs to minimize impacts from turbidity and noise on fish and other aquatic life. No activities that would create turbidity are planned. Also, the time-of-year (TOY) restrictions for installation and removal of the temporary bridge, and in-water work for this, and all the action alternatives, would reduce the potential exposure of fisheries resources to noise by conducting work when fisheries are in a life stage that is less susceptible to noise or when they are absent from the habitat. These TOY restrictions would be determined through coordination with the regulatory agencies during the design and permitting phase of the project.

Based on initial coordination with the CTDEEP Fisheries Division, the following recommendations should be observed during the installation and removal of the temporary bridge and other in-water work to ensure no impacts to fisheries:

- No unconfined in-water work from April 1 to June 30, inclusive.
- No loud construction-related activities such as jack hammering or hoe ramming after sunset or before sunrise from April 1 to June 30, inclusive.
- Artificial lighting over the water is limited to navigation lights and any lighting typically required to operate the bridge during the spring migration period from April 1 to June 30, inclusive.

An EFH Assessment Checklist would be completed as part of the design and permitting phase for this, or any of the action alternatives, if advanced. The EFH Assessment would contain detailed information on potential impacts to EFH and trust resources as a result of the Build Alternative and would identify measures that would be implemented to avoid or minimize adverse impacts to EFH. Fish passage would not be restricted by this alternative either during or after construction. Construction impacts would be avoided or minimized, under this, or any of the action alternatives,

through proper construction staging and would be coordinated with the USCG, USACE, NOAA NMFS, CTDEEP NDDB and Marine Fisheries, the Town of Westport Harbormaster and Shellfish Commission, and stakeholders. A soft start would be used during the installation of piles or sheets under any of the action alternatives.[25]

Rehabilitation Alternative

The Rehabilitation Alternative would include disturbance of upland and wetland vegetation, and temporary work within intertidal and subtidal habitats, similar to the Conservation Alternative described above. Construction of the temporary bridge and work trestles to the north of the existing bridge and eastern approach would have similar impacts as the Conservation Alternative. Tidal wetland vegetation would be impacted by the installation of the second pier from the east. The work trestle for the temporary bridge construction would not require vegetation clearing, since it would be outside of wooded areas.

In-water work associated with the existing bridge would include the rehabilitation of Piers 2 and 3 and the replacement of the fender system around the mechanical pier. There would be no permanent impacts associated with this work since the piers would not be expanded. BMPs identified in consultation with applicable regulatory authorities would be incorporated to minimize impacts from turbidity and noise on fish and other aquatic life. Replacement of the fender would require new piles since the new fender would be located two feet closer to the channel than the current fender location. Although this would permanently impact benthic habitat, the removal of the existing piles from the current fender system would help to offset this impact. Marine enclosures, sheet pile cofferdams, and turbidity curtains could be used to contain activities that could cause turbidity and would therefore not have a substantial negative impact on fisheries or shellfish resources. TOY restrictions on in-water work could reduce the potential exposure of fisheries resources to turbidity and/or noise because work would be conducted when fisheries are in a life stage that is less susceptible to suspended sediment, or when they are absent from the habitat. Specific TOY restrictions would be determined through coordination with the regulatory agencies during the design and permitting phase of the project.

On-Alignment Replacement Alternative (Preferred Alternative)

The On-Alignment Replacement Alternative (Preferred Alternative) would cause disturbance to vegetation, subtidal and intertidal communities. This alternative would cause the greatest temporary impacts of any alternative, and the second largest permanent impacts. Similar to the Conservation and Rehabilitation Alternatives, temporary work within intertidal and subtidal habitats would be required due to the construction of the temporary bridge and work trestles to the north of the existing bridge and eastern approach (See Figure 3-5B). These temporary facilities would require the removal of upland woodland vegetation for the construction of the temporary abutment, eastern-most pier, and the two eastern spans, and the temporary work trestle adjacent to the existing bridge. Tidal wetland vegetation would be impacted by the installation of the second pier from the east. Like the Conservation and Rehabilitation Alternatives, while the temporary trestles are in place during construction, the existing tidal wetland to the north of the bridge, and a smaller area of mudflats to the west of this tidal wetland, would be shaded for part of the day by the trestle decks resulting in impacts. The temporary bridge and work trestles would be in place for the duration of construction, which is not anticipated to result in a permanent adverse impact on vegetation or wildlife. The work trestle for the temporary bridge construction would not require vegetation clearing, since it would be outside of wooded areas.

[25] Soft start procedures refer to gradually increasing underwater sound intensity of construction activities to deter marine and freshwater mammals from entering the area before the full volume is reached.

Similar to the previous alternative, the impacted upland woodland habitat would be stabilized with vegetation or stone riprap. Invasive vegetation species would be treated within the project limits as with the previous alternatives. Like the previous alternatives, barges would also be utilized to assist with construction activities where access cannot be provided by the trestles.

As with the other alternatives, holes left by the removal of the remaining piers and barge spuds in mudflat and benthic habitats are expected to be restored relatively quickly through natural processes with no permanent adverse impact to the benthic community.

The in-water work associated with the existing bridge replacement would include new piers, fenders, spans, and abutments. The footprint of the piers would all be larger, with the new mechanical pier being relocated to the eastern side of the existing channel. The two rest piers would also be twice as large. The new mechanical pier and eastern rest pier would be in new locations; however, the western rest pier would be located on the existing mechanical pier. The combination of the larger piers and the piers in new locations would cause permanent impacts to the river bottom benthic habitat and mudflat habitat. The easternmost existing pier would be removed, providing some offset of permanent impacts. The piles associated with the new mechanical pier fender would also cause permanent impacts to the river bottom and benthic habitat.

The new pier installation and removal of the existing eastern pier would include the temporary installation of sheet piling containment to protect aquatic resources. BMPs identified in consultation with applicable regulatory authorities would be incorporated to minimize impacts from turbidity and noise on fish and other aquatic life. These activities would therefore not have a substantial adverse impact on fisheries or shellfish resources. Like the previous alternatives, agency recommendations should be observed during the installation and removal of the temporary bridge and in-water work. TOY restrictions on in-water work would reduce the potential exposure of fisheries resources to turbidity and/or noise, as work should be conducted when fisheries are in a life stage which is less susceptible to suspended sediment, or when they are absent from the habitat. Additional coordination with the regulatory agencies would be undertaken during the design and permitting phase of the project.

Fish passage would not be restricted either during or after construction. Regionally, the impacts discussed above would be insignificant to the systems as a whole.

Off-Alignment Replacement Alternative

Similar to the other alternatives, the Off-Alignment Replacement Alternative would cause disturbance to vegetation and subtidal and intertidal communities. This alternative would cause the greatest permanent impacts of any alternative, and the second largest temporary impacts. Unlike the other alternatives, temporary work within intertidal and subtidal habitats would not include the construction of a temporary bridge; however, a work trestle would still be required to the north of the existing bridge and eastern approach (Figure 3-6). The construction of the temporary trestle would require the removal of upland woodland vegetation; however, it would be the least of any alternative. Tidal wetland vegetation would be impacted by the installation of the piles for the trestle. The temporary trestle would cause minimal shading of the tidal wetland, although the shaded area would be smaller than any of the other alternatives. This shading effect would occur for the duration of construction, which would not be anticipated to result in a permanent adverse impact on vegetation or wildlife.

The impacted upland woodland habitat would be stabilized with vegetation or potentially stone riprap. The area of vegetation removal would be smaller than any of the other alternatives and would have no adverse impacts on the

populations of wildlife species expected to inhabit the area. Invasive vegetation species would be treated as with the other alternatives. The portion of tidal wetland impacted by the temporary trestle piles would be restored to their pre-construction condition after removal of the trestle. The use of barges for temporary access would also cause temporary impacts to the river bottom and benthic habitat. Like the On-Alignment Replacement Alternative, holes left by the removal of the remaining piers and barge spuds in mudflat and benthic habitats would be expected to be restored relatively quickly through natural processes with no permanent adverse impact to the benthic community. Due to the small footprint of the temporary trestle, the temporary loss of foraging habitat would be negligible.

The in-water work associated with the existing bridge replacement would include new piers, fenders, spans, and abutments. The overall footprint of the new piers would be larger than any other alternative. The new mechanical pier would be relocated to the eastern side of the existing channel and would be larger than the existing mechanical pier. The two rest piers would also be larger. All new piers would be in new locations. Due to the larger piers and the piers in new locations, this alternative would cause the largest permanent impact on the river bottom benthic habitat and mudflat habitat. All existing piers would be removed, providing a substantive offset of permanent river bottom impacts. The piles associated with the new mechanical pier fender would also cause permanent impacts to the river bottom and benthic habitat.

New pier installation and removal of the existing piers would include temporary installation of containment to protect aquatic resources. Marine enclosures or turbidity curtains could be used to contain activities that could cause turbidity. Therefore, there would not be a substantial adverse impact on fisheries or shellfish resources due to the pier installation. BMPs and TOY restrictions would be similar to the On-Alignment Replacement Alternative and would be identified in consultation with applicable regulatory authorities.

SUMMARY OF POTENTIAL IMPACTS

While each of the alternatives, except for the No Build Alternative, would have permanent and temporary resource impacts, no significant impacts to biological resources would be expected under any of the alternatives. A detailed assessment of impacts and additional coordination with the applicable regulatory agencies would be undertaken during the design and permitting phase of the project, which would include an evaluation of avoidance and minimization techniques, and identification of potential mitigation measures.

3.14.2 Threatened and Endangered (T&E) Species

Regulatory Setting

The ESA requires federal agencies (and others) to avoid actions that would jeopardize threatened or endangered species or their critical habitats (Endangered Species Act; 16 U.S.C. § 1531 et Seq., 1973). Section 7 of the ESA describes the steps for informal and formal consultation with NMFS, for marine species and diadromous fish species, or with USFWS, for terrestrial and freshwater species. NMFS and USFWS serve as the regulatory authorities governing Critical Habitat pursuant to Section 4 of the ESA and 50 CFR Part 226 (Regulations for Designated Critical Habitat, 50 CFR Part 226, 1996). The Connecticut Endangered Species Act regulates state listed species with a goal to conserve, protect, restore, and enhance any endangered or threatened species and their essential habitat (Connecticut Endangered Species Act, 26 CGS § 303-317, 1989).

Methodology

The NOAA NMFS' Critical Habitat Mapper, Section 7 Mapper, USFWS IPaC and CTDEEP NDDB were consulted to determine if any state or federal threatened, endangered or special concern species or critical habitats are known to occur in the study area (CTDEEP, 2023d; NOAA, 2023a, 2023d; USFWS, 2023a). The CTDEEP NDDB data is depicted in Figure 3-6. In June 2020, CTDOT coordinated with the NMFS GARFO and CTDEEP Marine Fisheries regarding listed species and potentially affected resources.

Existing Conditions

According to USFWS IPaC, there were three species noted for further review: NLEB, Red Knot *(Calidris canutus rufa),* and Monarch Butterfly *(Danaus plexippus*) (USFWS, 2023c).

The USFWS listed the NLEB as a threatened species on April 2, 2015 and issued a species-specific Final 4(d) Rule on January 14, 2016 under the federal ESA for the NLEB (Final 4(d) Rule for the Northern Long-Eared Bat, 81 FR 1900, 2016; USFWS Final Rule: Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule, 80 FR 17973, 2015). This 4(d) Rule determines whether a federal action is consistent with the activities analyzed in the USFWS' January 5, 2016 Programmatic Biological Opinion (PBO) (USFWS, 2016) which addresses activities excepted from "take" prohibitions applicable to the NLEB under the ESA (Endangered Species Act; 16 U.S.C. § 1531 et Seq., 1973). Under the previous 4(d) Rule, focused protections, rather than broad protections, were provided to the species, emphasizing its vulnerable habitat areas, specifically known hibernacula and maternity roost trees within white-nose syndrome-affected counties.

On November 30, 2022, the USFWS published a Final Rule reclassifying the NLEB listing status from threatened to endangered, removing its species-specific Rule issued under Section 4(d) of the Act, which became effective on March 31, 2023, and resulted in a change to the take provisions for the species (USFWS Endangered Species Status for Northern Long-Eared Bat Final Rule, 87 FR 73488, 2022).

According to CTDEEP records, there are no caves or mines on, or within ¼-mile of the study area, nor any within the town of Westport that could be utilized as hibernacula for this species. While there are no CTDEEP records of known maternity roost trees within the study area, wooded areas within the project area may provide refuge for NLEB, including along the riverbank on the east side of the Saugatuck River. The Proposed Action may affect the NLEB; therefore, the project is subject to Section 7 consultation for the species to determine the effects of the Proposed Action. In accordance with the ESA, the USFWS would be consulted during the project design and permitting phase for activities that may affect the NLEB.

Red Knot is currently listed as threatened under the ESA with proposed critical habitat. Red Knots are found on sandy beaches and mudflats along the coasts during migration and winter (May and September). They use marine habitats, including peat banks and mudflats of estuaries that contain an abundance of invertebrates. While their preference is for horseshoe crab eggs, they will also eat mussels and their larvae, clams, cockles, amphipods, gastropods, marine worms, chitons, shrimp, and crabs. They tend to return to the same locations year after year. The small estuarine area of peat and mudflat on the east side of the Cribari Bridge is unlikely to provide sufficient suitable habitat for this species. A review of the best available biological data resulted in no known confirmed sightings of Red Knot at the project location.

The monarch butterfly is currently a candidate, and no critical habitat has been proposed for the species. The monarch butterfly is found throughout the entire U.S. Monarch butterflies are obligate to milkweed host plants (primarily *Asclepias* spp.) for both breeding and larval development and removal of milkweed would be required for any potential adverse effect to the species.

Based on a review of the NMFS GARFO ESA Mapper (NOAA, 2023d) and initial correspondence received from NMFS GARFO Protected Resource Division (email communication, 6/29/2020), six marine obligate species listed under the ESA have the potential to occur within the study area (see Table 3-9).

Table 3-9: State Listed Marine Species Potentially Occurring in the Study Area

Common Name	Scientific Name	Listing Status
Atlantic Sturgeon	*Acipenser oxyrhynchus*	Threatened
Shortnose Sturgeon	*Acipenser brevirostrum*	Endangered
Loggerhead Sea Turtle	*Caretta caretta*	Threatened
Green Sea Turtle	*Chelonia mydas*	Threatened
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	Endangered
Leatherback Sea Turtle	*Dermochelys coriacea*	Endangered

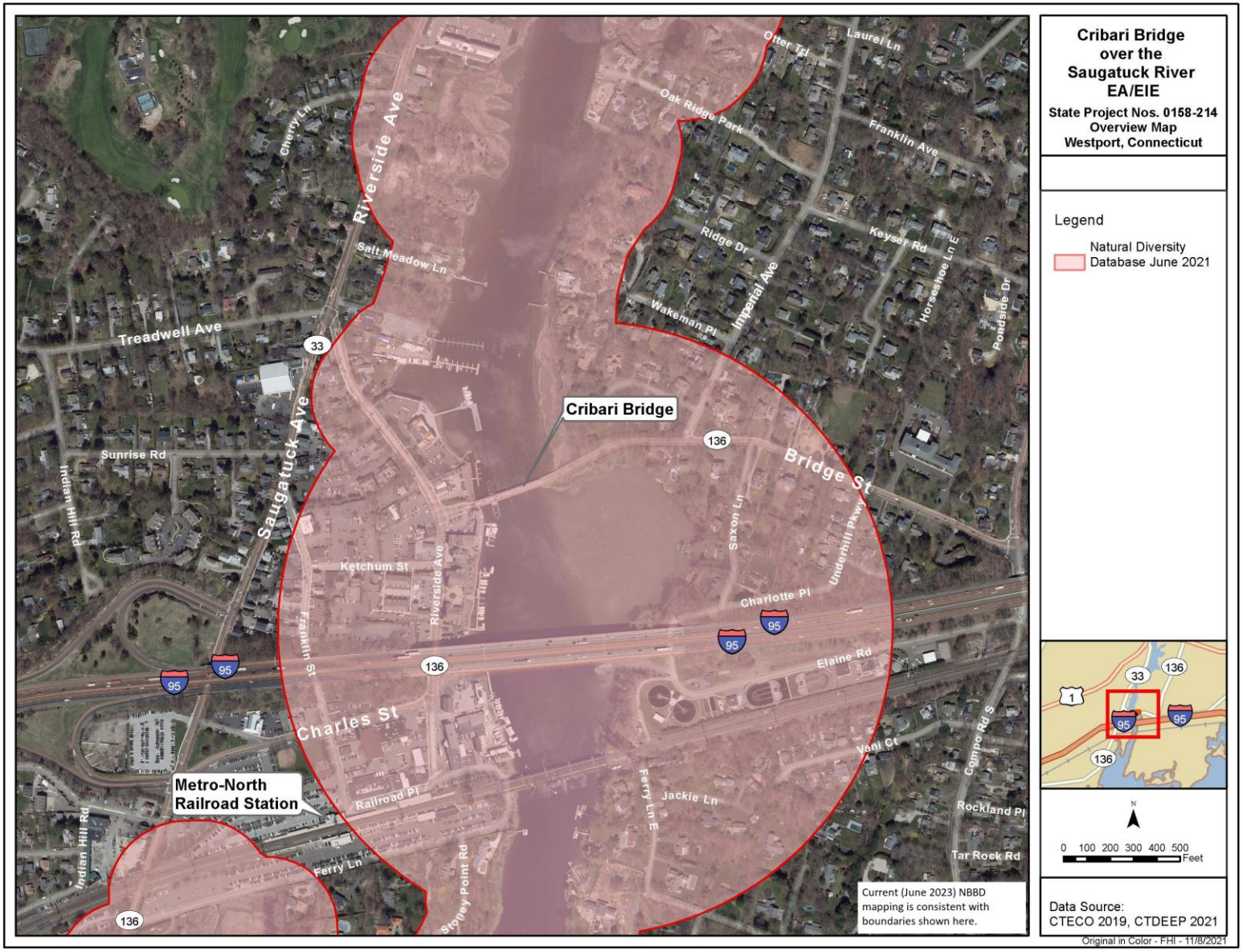

Figure 3-6: CTDEEP Natural Diversity Data Base (NDDB) Areas within the study area

NMFS GARFO also indicated that the proposed project is not located within or near any areas designated as critical habitat for NMFS ESA species (NOAA, 2023c). All six species above are only potentially expected to occur either for migration or foraging activities. NMFS stated only transient adult and subadult Atlantic sturgeon may occur in the Saugatuck River for opportunistic foraging, primarily from April through November, but potentially year-round; spawning and early life stages are not expected to occur due to the habitat characteristics and the project's location along the Saugatuck River.

According to the NMFS, transient adult individual Shortnose Sturgeon could be found from April 1 – November 30 opportunistically foraging near the study area; due to habitat characteristics (such as salinity) and the project location in the Saugatuck River, spawning and early life stages are not expected to occur. NMFS does not expect Shortnose Sturgeon to overwinter in the study area. The four sea turtles identified by NMFS were identified as seasonally present species along the Long Island Sound and adjacent systems. According to NMFS, these sea turtles could occasionally be found in the Saugatuck River near the study area between April and November, with the highest potential concentration of sea turtles present from June through October.

According to correspondence from the CTDEEP NDDB dated July 14, 2020, nine state-listed species have potential to occur within the study area (see Table 3-10).

Table 3-10: State Listed Species Potentially Occurring in the Study Area

Common Name	Scientific Name	Listing Status
Peregrine Falcon	*Falco peregrinus*	State Threatened
Great Egret	*Ardea alba*	State Threatened
Snowy Egret	*Egretta thula*	State Threatened
Little Blue Heron	*Egretta caerulea*	State Special Concern
Yellow-crowned Night-heron	*Nyctanassa violacea*	State Special Concern
Bayonet Grass	*Bolboschoenus maritimus ssp. paludosus*	State Special Concern
Mudwort	*Limosella australis*	State Special Concern
Blueback Herring	*Alosa aestivalis*	State Special Concern
Northern Diamondback Terrapin	*Malaclemys terrapin*	State Special Concern

I-95 over the Saugatuck River is a known perching and nesting area for Peregrine Falcon. I-95 is located approximately 600 feet to the south of the Cribari Bridge. Mudwort grows in brackish or salt marshes, fresh tidal marshes, and their associated mud flats. Bayonet Grass grows in brackish or salt marshes, intertidal flats, or subtidal habitats.

Impacts

No Build Alternative

Under the No Build Alternative, existing conditions at the bridge would remain unchanged. Continued maintenance activities at the site would be coordinated with regulatory agencies to avoid and minimize potential impacts to T&E species.

Conservation, Rehabilitation, **On-Alignment Replacement (Preferred Alternative)**, and Off-Alignment Replacement Alternatives

There is no suitable habitat for Red Knot in the immediate project area. Therefore, no impacts are anticipated to this species as a result of project activities. Despite the minimal suitable terrestrial habitat for the NLEB in the project area, any of these alternatives would require the removal of trees along the eastern bank. In accordance with Section 7 of the ESA, the CTDOT would consult with the USFWS during the project design and permitting phase to determine measures to avoid, minimize, and potentially mitigate impacts to the NLEB.

The nesting location of the Peregrine Falcon is to the south of the Cribari Bridge, outside the project limits, and would not be directly or indirectly impacted by the action alternatives. Though noted to be somewhat tolerant of human disturbance, Peregrine Falcons could be negatively impacted if work is undertaken too close to the nest during their nesting season. To avoid and minimize potential impacts to this species, work conducted during the breeding season (April 1st – July 31st), including barge movement, would maintain a 500-foot buffer from a nesting Peregrine Falcon. The CTDOT would continue to coordinate with CTDEEP during the design and permitting phase of the project and throughout the construction phase to ensure this species is not negatively impacted.

Additional listed avian species identified by the CTDEEP NDDB include the Great and Snowy Egrets, Little Blue Heron, and Yellow-crowned Night Heron. All these species may utilize the tidal wetlands and mudflats on the east side of the river, both north and south of the bridge, for foraging. There is approximately 35 acres of tidal wetland habitat along the Saugatuck River between the Route 1 Bridge and Long Island Sound. It is unlikely any of these species would nest in the study area. Since only foraging behavior would be anticipated, and because these species are all highly mobile, no adverse impacts are anticipated to any of these species or their populations. During construction, BMPs identified in consultation with applicable regulatory authorities would be implemented to ensure avoidance and minimization of potential impacts to these species. Temporary unavailability of foraging habitat could require these species to utilize other foraging areas during working hours. While the permanent loss of tidal wetland and mudflat habitat associated with the Off-Alignment Replacement Alternative pier and abutment construction would constitute a permanent loss of several thousand square feet of habitat for these species; it is only a small fraction of the estimated 35 acres of suitable habitat found along the river, a small enough area that no individuals or their populations would be negatively impacted. Furthermore, the project would include mitigation for the loss of the tidal wetlands and mudflat habitat.

The CTDEEP NDDB requested that surveys be completed for these species in their July 14, 2020, correspondence. Field surveys for these species would likely be completed during the design and permitting phase of the project, and the results would be shared with the CTDEEP. Once surveys are completed, additional coordination would be undertaken with the CTDEEP, depending on whether listed species are present or not. If these species are present, then avoidance, minimization, and mitigation measures may be undertaken if warranted.

As indicated by the CTDEEP, Northern Diamondback Terrapins may potentially occur in the study area in the tidal wetland or in the adjacent uplands for egg laying. The CTDOT has developed specific BMPs to protect this Northern Diamondback Terrapin (see Appendix N), which include TOY restrictions for certain activities and implementation of precautionary measures to protect the species and its habitat during the Terrapin's dormant period (November 1 to May 31) and during any work within the Terrapin's active period (April 1 to October 31), which includes the nesting and hatching period. With the implementation of these measures, no adverse impacts are anticipated during construction. Permanent impacts to the habitat of this species would occur under the Off-Alignment Replacement Alternative, due to loss of tidal wetland habitat from pier and abutment construction on the east side of the river. If the Off-Alignment Replacement Alternative were selected, CTDOT would coordinate a mitigation package for the

project with CTDEEP for potential Terrapin impacts. The other alternatives would have temporary impacts on tidal wetlands, but these areas would be restored to a state similar to pre-existing conditions, after completion of construction. Additional coordination with CTDEEP NDDB for this species would be undertaken during the design and permitting phase of the project to finalize avoidance, minimization measures, and the potential need for mitigation.

NMFS identified six listed aquatic species that could potentially occur within the study area. The Off-Alignment Alternative would have the largest permanent impact to potential foraging habitat of these species (i.e., benthic river bottom habitat). Relative to the large area of potential foraging habitat in the Saugatuck River and adjacent waters, the small permanent impacts associated with this alternative would not constitute a permanent adverse impact to any of these species or their populations. All other alternatives, which have less potential permanent impacts to foraging habitat, would likewise have no adverse impacts from the resulting habitat loss to individuals of populations of these species.

In-water construction activities have the potential to cause impacts on the aquatic listed species, primarily through the generation of noise and suspended sediment in the water column. Of the alternatives, the On-Alignment Replacement Alternative (Preferred Alternative) would exhibit the greatest temporary in-water impacts on subtidal and intertidal habitats due to the installation of a temporary bridge, temporary work trestles, construction of four new piers at new locations, and construction of a new fender system. Some of these in-water components would require installation/removal of temporary sheet piling coffer dams and marine enclosures, as well as use of spudded barges to assist construction, which would cause temporary loss of habitat, and temporary underwater noise and potential suspended sediment. This alternative would be conducted over a two-year period. Construction activities that encroach into habitat involving intrusive vibration or noise can stress fish and wildlife. Therefore, to avoid and minimize impacts to anadromous fish, Blueback Herring, Atlantic Sturgeon, and Shortnose Sturgeon, TOY, time of day, and soft start restrictions would be observed for in-water work. Marine enclosures, turbidity curtains, silt curtains and sheet pile coffer dams would be used to control levels of suspended sediment for those activities likely to disturb the river bottom. Coordination with State and federal agencies would be undertaken to ensure appropriate BMPs are in place.

The remaining action alternatives would generate less potential temporary impacts to these species. The Conservation and Rehabilitation Alternatives both have temporary bridges and trestles, but only minor work to existing piers, and for a shorter duration of approximately two to three years. The Off-Alignment Replacement Alternative would have a construction duration of three years, but would not require a temporary bridge, and would include only one temporary work trestle. Migration and/or transient movement of these aquatic species would not be impacted by any of the alternatives either during construction, or post-construction. Due to the size of the Saugatuck River, sufficient water area and depth could be maintained at all times during construction and post-construction to allow for unrestricted passage of the six listed aquatic species that could occur in the river.

As discussed above, initial coordination with the CTDEEP Fisheries Division identified the following recommendations to ensure no impacts to fisheries, which would also include the Blueback Herring. Although not specifically provided for Section 7 ESA species, these recommendations, if implemented, would also provide protection to Section 7 ESA species to some degree, although additional coordination would be required during the design and permitting phase of the project to avoid and minimize potential impacts:

- No unconfined in-water work from April 1 to June 30, inclusive
- No loud construction related activities such as jack hammering or hoe ramming after sunset or before sunrise from April 1 to June 30, inclusive

- Artificial lighting over the water is limited to navigation lights and any lighting typically required to operate the bridge during the spring migration period from April 1 to June 30, inclusive

In their correspondence, NMFS GARFO PRD (email communication, 6/29/2020) recommended consideration of the following measures to avoid and minimize impacts to sturgeon and sea turtles:

- Consider the use of timing restrictions for in-water work.
- Consider the use of silt management best practices (i.e., silt curtains and/or cofferdams) to minimize suspended sediment.
- Consider the use of cushion blocks and other noise attenuating tools, such as soft starts required by USACE and NMFS PRD, to avoid reaching noise levels that would cause injury or behavioral disturbance to sturgeon and sea turtles.

Coordination would be on-going with the NMFS, USFWS, and CTDEEP during the design and permitting phase of the project to determine what BMPs and other measures are needed to avoid and minimize potential impacts to state and federally listed species, and to develop mitigation if needed.

SUMMARY OF POTENTIAL IMPACTS

The permanent loss of tidal wetland and mudflat habitat associated with the Off-Alignment Replacement Alternative pier and abutment construction would constitute a permanent loss of habitat potentially used by Diamondback Terrapin and rare avian species. Any of the action alternatives would require the removal of trees along the east side of the river, which may constitute a marginal loss of migratory habitat for the NLEB. There would be temporary impacts under the other action alternatives. The On-Alignment Replacement Alternative would have the greatest temporary impact to subtidal and intertidal habitats and aquatic species that utilize them due to the need for a temporary bridge combined with the length of the construction period. CTDOT would coordinate with the NMFS, USFWS, and CTDEEP during the design and permitting phase of the project to determine what BMPs and other measures are needed to avoid and minimize potential impacts to state and federally listed species, and to develop mitigation if needed. Depending upon the alternative selected for the project, the following would apply:

- NDDB mapping would be confirmed at six-month intervals during design. If any state listed species are documented within the Project Site prior to construction of the Project, consult CTDEEP and reinitiate NDDB process.
- NDDB and IPaC databases would be monitored for new/updated listings of species that may occur within the Project Area and coordinate with CTDEEP and USFWS as required to address applicable state and federal requirements as design and construction progress.
- Erosion and sediment control measures would be designed and installed to minimize runoff to water and wetland resource areas.
- BMPs would be identified and incorporated in consultation with applicable regulatory authorities to minimize impacts from turbidity and noise to fish and other aquatic life.
- Noise attenuating tools, such as soft starts required by USACE and NMFS PRD, would be used to avoid reaching noise levels that would cause injury or behavioral disturbance to sturgeon and sea turtles.
- As project design progresses, Essential Fish Habitat coordination and Endangered Species Act (ESA) Section 7 consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries would be conducted. If in-water work is required during construction, installation of temporary protections may be required around resource areas.

- Appropriate construction sequencing and water handling methods would be followed to reduce potential impacts associated with construction activities, in accordance with the Stormwater Pollution Prevention Plan for the project.
- Time of year restrictions may be required as part of the permitting process for activities during construction to avoid and minimize impacts to fisheries.
- In compliance with CTDEEP Fisheries Division, the following would be observed during the installation and removal of the temporary bridge and other in-water work to mitigate impacts to fisheries:
    - No unconfined in-water work from April 1 to June 30, inclusive.
    - No loud construction-related activities such as jack hammering or hoe ramming after sunset or before sunrise from April 1 to June 30, inclusive.
    - Artificial lighting over the water is limited to navigation lights and any lighting typically required to operate the bridge during the spring migration period from April 1 to June 30, inclusive.

3.15 Additional Resources Reviewed as Part of the CEPA Process

The resources presented in this section are required for compliance with CEPA, per 22a R.C.S.A. § 22a-1a-1 et Seq. Review of these resources are not required for compliance with Federal NEPA regulations and are therefore not reviewed or approved by FHWA.

3.15.1 Climate Change and Sea Level Rise

This section discusses each of the proposed project alternatives in the context of climate change and sea level rise. This assessment focuses on two issues: reasonably foreseeable effects of climate change on the Proposed Action and the potential effects of the Proposed Action on climate change through consideration of GHG emissions.

Regulatory Framework

It is important to note that the regulatory environment is changing and new policies at the state level are emerging to address climate change. As stated in Governor Lamont's Executive Order No. 3, Connecticut has recognized "the increased intensity of weather events, rising sea levels, and ecological disturbances caused by climate change" (Executive Order No. 3, 2019), and the State is required to consider SLR in planning efforts (Public Act No. 18-82, An Act Concerning Climate Change Planning and Resiliency, 2018). Similarly, Connecticut Environmental Policy Act (CEPA) implementing regulations found in Regulations of Connecticut State Agencies (RCSA) Section 22a-1a-3 also require consideration of the effect of climate change on a proposed action (including any resiliency measures incorporated into the proposed action) (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019).

Connecticut's Coastal Management Act (CCMA) is codified in Connecticut General Statutes (CGS) Sections 22a-90 to 22a-111 (Connecticut Coastal Management Act, 1979). CCMA includes a policy codified in CGS Sec 22a-92(a)(5) that states projects should consider the potential impact of a rise in sea level, coastal flooding, and erosion patterns on coastal development so as to minimize damage to and destruction of life and property and minimize the necessity of public expenditure and shoreline armoring to protect future new development from such hazards (Connecticut Coastal Management Act, 1979).

Connecticut General Statutes (CGS) Section 25-68o(b) requires CTDEEP to publish the sea level change scenario for the state as established by the UConn Marine Sciences Division based upon the sea level change scenarios reported

by NOAA in Technical Report OAR CPO-1 entitled *Global Sea Level Rise Scenarios for the United States National Climate Assessment* and other necessary available scientific data.[26] As of December 26, 2018, CTDEEP adopted sea level change scenario for Connecticut is 0.5 meters (1.64 feet) higher than the national tidal datum in Long Island Sound (LIS) by 2050. Subsequently, the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) published additional climate projections information on vulnerability in coastal Connecticut (Seth et al., 2019). In addition, Executive Order No. 21-3 directed that the vulnerability of state assets to climate change and potential impacts on operations be assessed (Lamont, 2021).

RCSA Section 22a-1a-3 also require that the effect of GHG emissions as a direct or indirect result of the Proposed Action be considered – along with the effect of climate change on the Proposed Action, including any resiliency measures incorporated into the Proposed Action (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019).

Methodology

The analysis that follows assessed the vulnerability of each of the alternatives to future SLR and potential flooding from the increased frequency and severity of future weather events attributed to climate change. The analysis was based on comparing the elevation of critical mechanical and electrical components required to operate the movable span of each bridge alternative to: (1) the 100-year FEMA BFE of 10 feet upstream of the bridge and 13 feet downstream of the bridge with the CTDEEP adopted SLR projection of 1.64 feet by 2050 (i.e., the CIRCA Planning Threshold) and (2) the current NOAA projection for the Bridgeport, CT area of 4.17 feet of SLR by 2080 and 6.40 feet by 2100 under a high emissions scenario (NOAA, 2022b). See Section 3.12 Floodplains for a detailed explanation of the FEMA's development of BFEs. The analysis was also based on comparing the bridge structure's low chord to a design water surface elevation (DWSE) to include the SLR projection. Overall, the DWSE was calculated using the 100-year FEMA BFE with SLR and the required under-clearance and freeboard as identified in the CTDOT Drainage Manual (CTDOT, 2001). A report titled Storm Surge Design Criteria, Bridge No. 01349 William F. Cribari Memorial Bridge prepared for the Connecticut Department of Transportation in 2018 by Hardesty and Hanover provides a more detailed description of the development of the DWSE (see Appendix L).[27]

As noted above, projections for SLR beyond 2050 are currently provided by NOAA, but these projections have not currently been adopted into any regulatory frameworks. However, they represent reasonably foreseeable conditions at this time since they represent the best available science related to sea level rise projections for 2080 and 2100.

Existing Conditions

The Saugatuck River flows in a southerly direction and discharges into LIS between Seymour Point and Cedar Point in Westport, CT. The Cribari Bridge crosses the Saugatuck River approximately two miles north of the mouth of the river and is located within the state's designated coastal management zone as described in Section 3.13.

Mechanical and electrical equipment used to operate (open and close) the existing swing bridge is located on the top of Pier 1 between elevation 6.0 and 8.4 feet (NAVD88),[28] which is below the 10-year tidal surge elevation. During Hurricane Sandy in 2012, the nearest U.S. Geological Survey (USGS) provisional storm sensor (No. CTFI00006), just north of the bridge, recorded a peak high-water mark of 10.1 feet (NAVD88), which is approximately the same

[26] See the following link for NOAA in Technical Report OAR CPO-1 entitled Global Sea Level Rise Scenarios for the United States National Climate Assessment https://repository.library.noaa.gov/view/noaa/11124.
[27] The July 2018 Storm Surge Design Criteria report uses the term "Design Water Level" in lieu of design water surface elevation (DWSE).
[28] All elevations referenced in this section utilize the NAVD88 datum unless otherwise noted.

elevation as the FEMA BFE upstream of the bridge. Critical bridge operational components were inundated and damaged during this event, requiring extensive repairs. The existing bridge structure's low chord elevation is approximately 8.4 feet, and the top of the bridge deck is at approximately elevation 11.9 feet at both abutments and 13 feet on the swing span.

The east and west approach roadways have drainage low points just behind the abutments. The current NOAA predicted tidal event elevations indicate these areas would flood just prior to the 100-year event elevations with 1 to 1.5 feet of localized water depth at the 100-year elevation (NOAA, n.d.). These elevations do not consider the climate change predicted SLR, which would be expected to produce a greater depth of inundation.

There is also the potential for wind to affect the existing bridge trusses. The 1991 rehabilitation project removed the floor beams, which jeopardized their transverse rigidity. During the RSR process for the project, CTDOT recognized this deficiency. See Appendix H for the RSR. While repairs have recently been performed, these repairs do not bring the trusses to current standards for wind effects. While projections of severe wind are not available for future climate conditions, increased frequency and intensity of storms may include severe winds.

Impacts of Climate Change on the Proposed Action

No Build Alternative

Under this alternative, the existing bridge would remain in its current condition. Regularly scheduled maintenance would continue to occur to keep the bridge safe and operational, and emergency repairs would be performed as needed. Critical mechanical and electrical equipment necessary to operate the swing span would remain in their current location on top of Pier 1 and at their current elevation. The trusses would remain vulnerable to wind exposure. Because the sea level in Connecticut is projected to rise 20 inches by 2050 (O'Donnell, 2019) and as much as 2.26 ft by 2060 and 6.4 ft by 2100 (NOAA, 2022b) the mechanical and electrical equipment would be inundated by more frequent smaller storm events and eventually the daily tidal cycle. The HTL with the SLR would be 7.15 feet in 2050, submerging portions of the mechanical and electrical equipment during tidal cycles and resulting in an adverse effect – an impact that would likely worsen with continued SLR throughout the century.

The mechanical and electrical equipment used to open and close the swing bridge is located between elevation 6.0 and 8.4 NAVD88. The 10-year flood elevation at the bridge is approximately 8.1 feet NAVD88. The FEMA 100-year flood event (13 feet NAVD88) would result in the complete inundation of this important operational equipment. The electrical and mechanical equipment would need to be repaired more frequently and eventually become inoperable, inconveniencing the traveling public as a result of delays due to equipment malfunctions caused by damage. The existing bridge machinery and electrical equipment would eventually be flooded daily as a result of projected SLR; therefore, the bridge would be closed to marine traffic. The existing bridge deck would also eventually be flooded with the 100-year base flood and the addition of SLR; therefore, the bridge would also be closed to vehicular traffic as well as marine traffic during storm events (see Figure 3-7). The No Build, Conservation, and Rehabilitation Alternatives would not alter the approach roadways subjected to flooding from storms less intense than the 100-year event.

Conservation Alternative

Like the No Build Alternative, under the Conservation Alternative critical electrical and mechanical equipment would continue to be located on top of Pier 1 at an elevation that is susceptible to submerging portions of the mechanical and electrical equipment during tidal cycles. The electrical and mechanical equipment would need to be repaired more

frequently, and eventually become inoperable, inconveniencing the traveling public as a result of delays due to equipment malfunctions caused by damage, resulting in an adverse effect. Vehicle traffic would be impacted due to flooded machinery or operational loss. The existing bridge machinery and electrical equipment would eventually be flooded daily as a result of tidal fluctuation levels at projected SLR. Failure of the bridge opening and closing machinery would impact marine traffic. There would be reduced clearance beneath the low chord of the bridge due to SLR; therefore, the number of boats that can pass under the bridge without requiring an opening would decrease and/or the number of bridge openings required would increase. The existing bridge deck would eventually be flooded with the 100-year base flood and the addition of SLR; therefore, the bridge would be closed to vehicular traffic as well as marine traffic. The trusses would remain vulnerable to wind exposure.

Rehabilitation Alternative

The mechanical and electrical equipment that operates the swing span would continue to be located on top of Pier 1. Water-resistance measures would be implemented but would not be able to fully protect the mechanical/electrical systems when submerged. Under such circumstances, damage to, and malfunction or failure of, the operational equipment could be possible. As with the No Build and Conservation Alternatives, the bridge would be flooded with the 100-year base flood and the addition of SLR; therefore, the bridge would be closed to vehicular traffic as well as marine traffic. The potential damage and malfunction of the mechanical and electrical equipment would be costly to continually repair, and the flooding of the bridge could inconvenience the traveling public. The inability to open the bridge would inconvenience marine traffic. The trusses would remain vulnerable to wind exposure.

On-Alignment Replacement Alternative (Preferred Alternative)

Under the Preferred Alternative, to make the new bridge more resilient to the changing climate, water-resistant mechanical and electrical equipment would be installed at an elevation above the 100-year BFE with the SLR. In addition, the bridge superstructure could, if feasible, be designed in accordance with the DWSE. By substantially reducing the potential for future flood damage to the mechanical and electrical equipment, and preventing flooding of the bridge deck, the resilience of the new bridge structure and its operation would be greatly enhanced. The Preferred Alternative would have a beneficial effect with respect to resiliency and SLR. However, risks of flood damage would not be completely eliminated, as the potential for a storm to exceed the 100-year flood threshold would remain. For illustrative purposes, see Figure 3-8. While this graphic depicts a swing-bridge with flood elevations and SLR projections, a bridge type has not yet been identified and would be determined as the design is progressed.

Both the On-Alignment Bridge Replacement Alternative and the Off-Alignment Bridge Replacement Alternative option would raise the approaches to alleviate any flooding from the current 100-year coastal flooding event. However, the west approach and surrounding area would be difficult to elevate above the currently projected elevation of the 100-year flood event due to the numerous nearby businesses and intersections. Both Replacement Alternatives would alleviate all wind loading concerns.

Off-Alignment Replacement Alternative

The new bridge would be more resilient to the changing climate, with water-resistant mechanical and electrical equipment installed at an elevation above the 100-year BFE with the SLR. In addition, the bridge superstructure could, if feasible, be designed in accordance with the DWSE**.** Like the Preferred Alternative, this alternative would have a beneficial effect with respect to resiliency and SLR, though the risk of flood damage would not be completely eliminated, as the potential for a storm to exceed the 100-year flood threshold would remain. For illustrative purposes,

see Figure 3-8. While this graphic depicts a swing-bridge with flood elevations and SLR projections, a bridge type has not yet been identified and would be determined as the design is progressed.

Impacts on GHG Emissions from the Proposed Action

Sources of GHG emissions would be associated with the short-term emissions from construction equipment, as well as GHG emissions sourced from vehicles using the bridge. For both the No Build Alternative and each of the Build Alternatives, the Proposed Action is not anticipated to generate any additional vehicle miles traveled (VMT) or any related emissions. Emissions associated with the bridge are therefore limited to the potential effect of various alternatives on: (1) vehicle queuing that results in idling and associated increased emissions and (2) opportunities for non-vehicular modes of transportation (e.g., bicycles, pedestrians) that would allow for low or no emission transportation alternatives. As a result, this assessment focuses on a qualitative, relative comparison of the potential for different alternatives' effects on GHG emissions.

Comparison of No Build and Other Alternatives

With the assumption that VMTs would be a function of regional travel patterns and independent of the alternatives, the selection of any of the alternatives (including the No Build alternative) would not result in the generation of new trips or changes in travel patterns that would influence VMTs. This analysis considers the construction phase and operation of the bridge under each alternative.

In the No Build Alternative, there is no defined construction period, although the need for repairs and the generation of emissions associated with repair equipment would be likely.

For other alternatives, the potential for GHG emissions during construction can be roughly approximated by the length of the anticipated construction period: less than 2 years for the Conservation Alternative, approximately 2 years for the Restoration Alternative, 2-3 years for the On-Alignment Alternative, and 2-3 years for the Off-Alignment Alternative.

In the operational phase, vehicle queuing and idling, roughly approximated by LOS as described in Section 3.4, can provide a screening level surrogate for potential emissions, since queuing would be the major difference in vehicle emissions generation between alternatives. Based on the longer bridge opening and closing cycle and the traffic analysis summarized in Section 3.4 and Appendix H, queuing would be anticipated to decrease under all the Build Alternatives.

SUMMARY OF POTENTIAL IMPACTS

The No Build and Conservation Alternatives would require continued and more frequent maintenance due to more frequent inundation, and the existing bridge would eventually be permanently closed to marine traffic and to vehicular traffic during storm events. Impacts would be similar under the Rehabilitation Alternative, although mechanical and electrical systems would include some water-resistant measures. The On-Alignment and Off-Alignment Replacement Alternatives would provide more resilience to climate change and reduce the potential for future flood damage and closures.

Based on the preliminary qualitative assessment described above, none of the alternatives would be anticipated to result in permanent substantial changes in GHG emissions. Relative to each other, the Build Alternatives that would

reduce queuing due to improved approach geometry (all Build Alternatives) and shortened cycle length for bridge opening and closing (On- and Off-Alignment Replacement), would have reduced GHG emissions compared to the No Build over the design life of the bridge. Temporary air quality emissions during construction would be avoided or limited through BMPs such as the proper operation of construction equipment and adherence to regulations limiting the idling of engines.

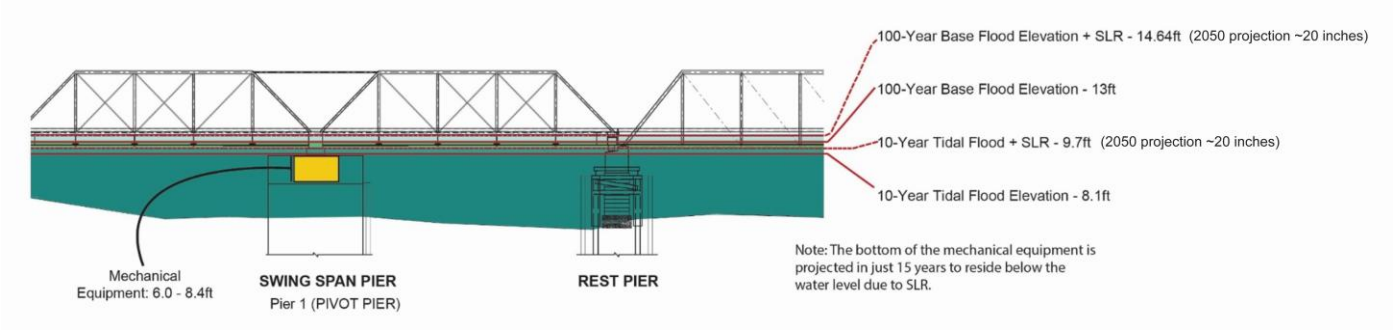

Figure 3-7: No Build, Conservation, Rehabilitation Alternatives - Flood Elevations with Sea-Level Rise

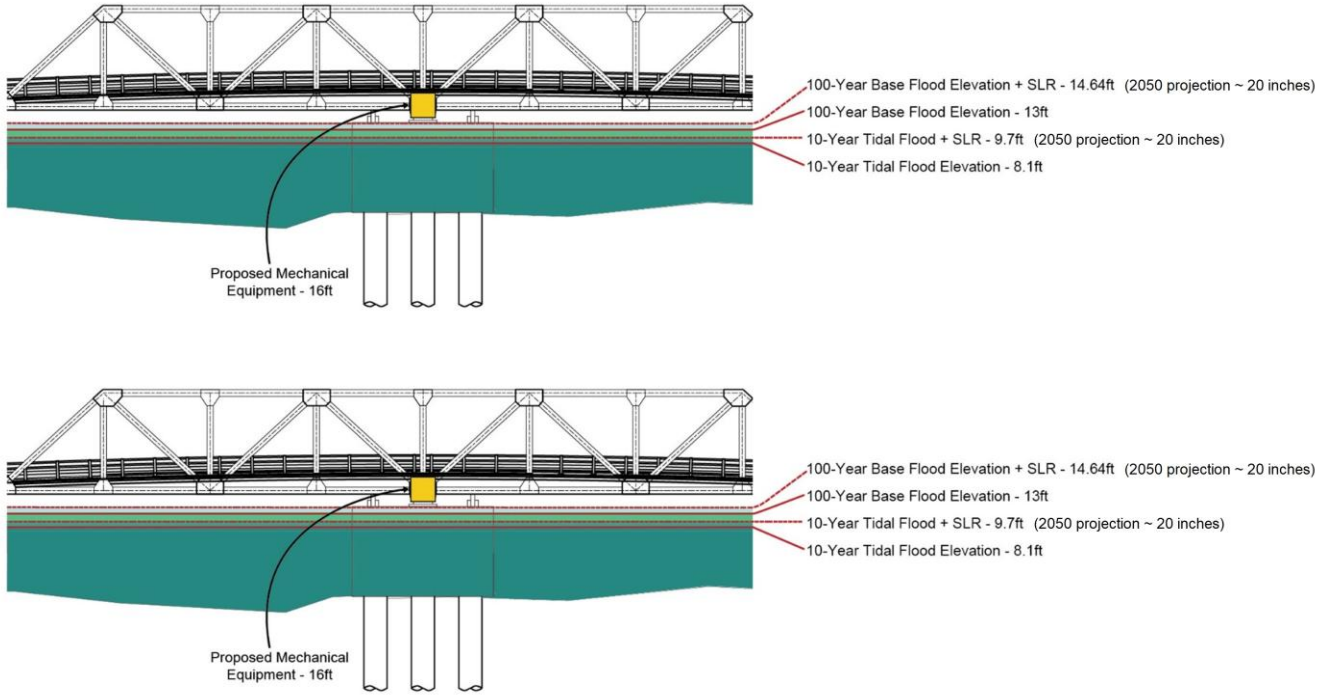

Figure 3-8: On-Alignment (Above) and Off-Alignment (Below) Replacement Alternatives - Flood Elevations with Sea-Level Rise

4 Indirect and Cumulative Effects

Disclaimer: Information containing reference to subjects such as climate change and sea level rise is pertinent to state only CEPA review, and is not federally approved by FHWA.

This section presents the potential indirect and cumulative impacts of the project alternatives on the environment.

4.1 Regulatory Framework

4.1.1 Federal (NEPA)

Cumulative effects under NEPA are defined as impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Indirect effects are defined and reasonably foreseeable actions that are a result of the proposed action.

4.1.2 State (CEPA)

Cumulative effects under CEPA are the effects on the environment that result from the incremental impact of the action when considered with past, present, or reasonably foreseeable future actions to be undertaken by the sponsoring agency. In reviewing an action for its cumulative effects, an agency shall consider that cumulative effects, including the incremental effects of similar actions with similar environmental effects and the incremental effects of a sequence of actions undertaken pursuant to an ongoing agency program, may have a significant environmental effect even though the individual component actions would not (CEPA Regulations, 22a R.C.S.A. § 22a-1a-1 et Seq., 2019).

Indirect effects under CEPA (RCSA Section 22a-1a-3(a)) include indirect consequences on local or regional conditions or resources that could result from activities induced by or occurring as a result of the proposed action.

4.2 Indirect Effects

The Proposed Action is intended to address existing deficiencies associated with the Cribari Bridge and provide for continued safe and reliable transportation for motor vehicles, bicycles, and pedestrians as well as marine traffic. As such, all Build Alternatives are intended to: reduce the load restrictions that have developed due to the existing bridge condition, increase the vertical clearance, and improve traffic operations at nearby intersections. This would result in changes to accessibility for vehicle types, including both automobiles and bicycles, allowing for a wider range of vehicles than are currently using the bridge due to the load and height restrictions. The Build Alternatives are not specifically designed to increase capacity, which is more likely to induce growth. Instead, the Build Alternatives are intended to address safety and other operational deficiency issues.

Under the No Build Alternative, increasing load restrictions may create access issues for certain vehicle types to utilize the bridge.

Indirect land use economic effects may occur due to the improved (under both Replacement Alternatives) or decreased (under the Rehabilitation Alternative) marine transportation conditions. Increased vertical clearance may provide some indirect economic benefits to the marine community along this portion of the Saugatuck River. However, it is important to consider that both economic growth and land use in an area depend on factors outside the scope of this project, including the local and regional economy, local zoning and land use regulations, and demographics. Under the No Build Alternative, increasing load restrictions may restrict access for certain vehicle types to utilize the bridge, restricting the flow of goods and services and requiring longer travel times to neighborhoods on either side of the Saugatuck River in the vicinity of the bridge.

4.3 Cumulative Effects

The assessment of cumulative effects involves the examination of the incremental impacts of the project when added to past, present, and future reasonably foreseeable actions. Projects considered in the cumulative effects analysis must have a reasonably close causal relationship to the Proposed Action. Projects must have a reasonable temporal relationship meaning they must not be remote in time and have a geographic relationship, meaning they must not be geographically remote from the Proposed Action. Consideration of the effects of past projects requires identifying a logical baseline date to serve as the starting point for the assessment. Using the most recent Connecticut State Transportation Improvement Program for fiscal years (FY) 2025-2028 and the 2022-2026 Connecticut State Rail Plan, the projects that are included in the cumulative impact assessment are intersection improvements on Route 136 and the replacement of the Saugatuck River Railroad Bridge.

Resources evaluated with respect to cumulative impacts include those that are directly or indirectly impacted by the Proposed Action and evaluated in this EA/EIE in Section 3 (see Table 2-4 for a summary of potential post-construction impacts by alternative). Depending on the alternative considered, these resources include traffic and transportation, socioeconomic resources, cultural resources, water resources and water quality, navigable waters, wetlands, coastal resources, biological environmental, and climate change and sea level rise (climate change and sea level rise is required for review under CEPA only). Potential negative effects on consistency with state, regional, and local plans are associated with the resources (e.g., traffic and transportation, cultural resources, climate change) and are considered in the context of those resources. Potential impacts associated with climate change and sea level rise were identified for a subset of the alternatives, and therefore, resilience is the focus within that resource topic analysis. For these resources and all others included in this EA/EIE, Section 3 describes the existing condition of resources in more detail, along with an overall discussion of the environmental context.

The geographic study area for each resource considered for the cumulative impact assessment is generally larger than the resource study areas identified in Section 3. Table 4-1 summarizes the cumulative impact study areas for each resource area discussed in Section 3. The resource study areas for this cumulative impact assessment are defined in Table 4-1 and depicted in Figure 4-. For the purposes of the assessment, resources with the same study area are grouped as shown in Table 4-1.

Table 4-1: Tabular Summary of Resource Study Areas for Cumulative Effects Analysis

Resource(s)	Cumulative Effects Study Area	Study Area Rationale
Wetlands, Biological Resources, Water Resources and Water Quality, Coastal Resources	The Saugatuck River from its mouth at Long Island Sound upstream to the dam located approximately 1000 feet north of the Kings Highway North / Canal Street Bridge (This reach of the river is tidally influenced.)	The study area was determined appropriate for the assessment of cumulative impacts due to the location and scale of potential impacts of alternatives (Figure 4-1).
Navigable Waters	The Saugatuck River from its mouth at Long Island Sound to the Route 1 Bridge in Downtown Westport	Marine vessels can navigate the Saugatuck River up to the Route 1 Bridge, although navigation becomes increasingly restricted by shallow channel depth as one progresses north of the I-95 Bridge.
Cultural Resources	The Area of Potential Effect (APE) identified in Section 3.7 (Cultural Resources), which extends approximately 500 ft north and 250 ft south from the existing bridge and includes approximately 1,100 ft of the Route 136 corridor between Riverside Avenue to the west and Imperial Avenue to the east of the Saugatuck River.	This APE was identified through the Section 106 process as the area within which the Proposed Action may cause alteration in the character or use of historic properties (see Section 3.7 and Appendix B.
Traffic and Transportation	Includes state routes and local streets in the vicinity of the project and includes the intersections of Bridge Street with Riverside Avenue (Route 33) (approximately 170 feet from the west terminus of the bridge) and with Compo Road South (Route 136) (approximately 2,150 feet to the east of the bridge). Route 1 to the north, where it traverses through downtown Westport is also included.	This coincides with the study area for the assessment of traffic and transportation effects associated with the bridge (see Figure 3-2).
Socioeconomic	Includes the area extends from the Cribari Bridge north to Treadwell Avenue, south to the Metro-North Railroad Station, east to Compo Road South, and west to Saugatuck Avenue (see Figure 3-1)	This area includes populations likely to use this river crossing based on an understanding of the transportation network.

Resource(s)	Cumulative Effects Study Area	Study Area Rationale
CEPA-Specific Resource Study Areas		
Climate Change and Sea Level Rise	Saugatuck River corridor from the mouth of the river in Long Island Sound to Route 1	Based on flood vulnerability mapping by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA)[29] this stretch of the river corridor is an area of higher vulnerability compared to surrounding areas of Westport.

4.3.1 Wetlands, Biological Resources, Water Resources and Water Quality, Coastal Resources

In addition to the Cribari Bridge Project, which is the subject of this EA/EIE, and adhering to the temporal and geographic study assessment parameters identified above, CTDOT has undertaken two projects in the past 30 years within the tidal reaches of the Saugatuck River and associated coastal resources. The previous projects, which are now part of the present existing condition, include:

- Rehabilitation of the Cribari Bridge (1991) – State Project No.158-150. This was the last major project involving the Cribari Bridge, aside from regular maintenance activities and repairs that were required following Hurricane Sandy in 2012
- CP 243 Interlocking – State Project No. 0301-0181A. As part of this project, railroad signal and communication cables were installed beneath the Saugatuck River bottom at the location of the existing Saugatuck River Railroad Bridge. The submarine cable installation occurred from Winter 2019/2020 to Spring 2020.

Impacts to the Saugatuck River wetlands, biological resources, water resources and water quality, and coastal resources from the projects listed above have been relatively minimal. All CTDOT projects are designed to avoid and minimize impacts to the greatest extent practicable and the need for mitigation actions are identified through project permitting processes. This same approach would be used if any intersection projects listed in the STIP had the potential to impact regulated resources in the area in Figure 4-. Environmental conditions that remained upon completion of the past projects contribute to the baseline environment conditions that have been accounted for in this EA/EIE. Overall, cumulative impacts to these resources from any of the alternatives considered, and any past, planned, or future projects, are not considered significant.

4.3.2 Navigable Waters

Past projects affecting the Saugatuck River collectively have resulted in the current navigational channel characteristics and conditions that form the baseline for this EA/EIE. Construction of any of the Build Alternatives would have short-term effects on navigation as described in Section 3.10. These effects would be resolved once construction is complete. However, the Rehabilitation Alternative would result in a permanent two-foot reduction in horizontal navigational clearance.

A proposed USACE dredging project that would involve dredging the channel from the I-95 Bridge crossing north to approximately the US Route 1 Bridge crossing in downtown Westport is the only other reasonably foreseeable action

[29] CCVI Flood Viewer – https://experience.arcgis.com/experience/44ddea38aac34779a6a115ed6eae1db1/

presently planned that would affect navigation in the Saugatuck River. Federal funding for the project was announced in 2022 (Westport Journal, 2022) and therefore is considered reasonably foreseeable. The dredging project may result in short-term impacts to navigation during the active dredging, but the purpose and intent of the overall project is to improve navigation on the portion of the river by removing sediment accumulation and deepening the depth of the navigation channel. The project would be subject to applicable permitting and approvals to avoid, minimize, or mitigate impacts. As such, no cumulative adverse impacts to navigation are anticipated associated with the No Build, Conservation, On-Alignment Replacement, and Off-Alignment Replacement Alternatives.

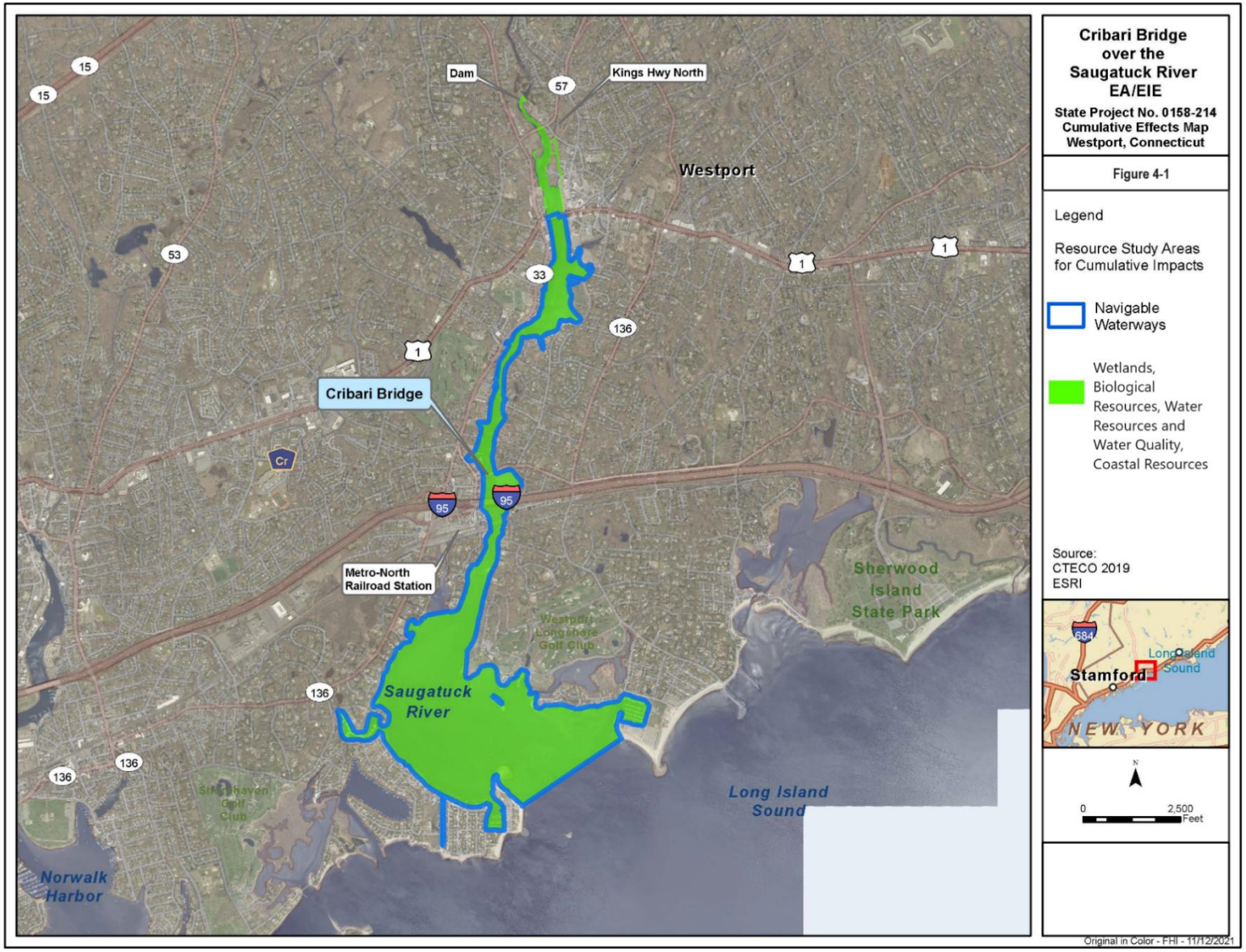

Figure 4-1: Map of Cumulative Effects Study Area for Navigable Waters and Wetlands and Coastal Resources and Floodplains

4.3.3 Cultural Resources

Section 3.7 (Cultural Resources) summarized the alteration to the Cribari Bridge in 1991 that resulted in a direct adverse effect on the Cribari Bridge. Since then, additional repairs/maintenance activities have occurred but were minor in scope compared to the 1991 rehabilitation. The Conservation and Rehabilitation alternatives would require continuing maintenance and repair with more frequency as the structure ages (as discussed in Section 2). While the Section 106 process has determined that the Off-Alignment and On-Alignment Replacement Alternatives would result in the removal of the existing Cribari Bridge and consequently an adverse effect to a historic resource, based on the findings of the Rehabilitation Study Report, it is reasonably foreseeable that a full replacement of the bridge would be required 40 years following the Rehabilitation Alternative (Close Jensen & Miller, 2016). Given the need for full replacement in 40 years with rehabilitation, it is reasonable to assume that all alternatives considered would eventually require full replacement, resulting in an eventual adverse effect on the historic structure.

In November 2023, federal funding for the replacement of the Saugatuck River Railroad Bridge was announced (Federal Railroad Administration, 2023a). However, that bridge is located well outside of the APE to the south. As mentioned above, the most recent Connecticut State Transportation Improvement Program for fiscal years (FY) 2025-2028 does not include projects within the APE.

The Westport Historic District Commission (HDC) has regulatory authority over exterior work in Local Historic Districts or Local Historic Properties, including the Bridge Street Historic District (NRIS 100002318) that is listed on the NRHP. For non-state and non-federal actions,[30] activities within the proposed district are subject to the Certificate of Appropriateness process under the jurisdiction. In addition, the Westport Demolition Delay Ordinance (§14-21), which is applicable to buildings 500 square feet and larger and 50 years or older and Historic Preservation Zoning Incentives (§32-18), provides some opportunity to avoid, minimize or mitigate any adverse effects of local actions to historic resources that are within the APE. As a result, the potential for cumulative effects to historic resources is limited to the eventual replacement of the existing bridge, which has been identified as reasonably foreseeable under the No Build, Conservation, and Rehabilitation Alternatives (Close Jensen & Miller, 2016) as well as in both Replacement Alternatives considered in this EA/EIE.

4.3.4 Traffic and Transportation

As mentioned above, there have been past projects as well as the reasonably foreseeable CTDOT project to provide intersection improvements on Route 136. Since the prior projects and the foreseeable project are anticipated to improve traffic and transportation conditions, as are the Build Alternatives considered in this EA/EIE, no cumulative impacts to traffic and transportation are anticipated under the Build Alternatives.

[30] The State of Connecticut has sovereign immunity from its municipalities and will not seek local approvals, like the Certificate of Appropriateness from municipal governments for actions impacting state-owned resources. Other state and federal oversight and approval of state actions (e.g., CEPA, NEPA, and Section 106) are relevant to state actions.

4.3.5 Socioeconomics

Other reasonably foreseeable agency actions are intended to provide improved traffic operations and safety, and as such, they are not anticipated to contribute to any negative cumulative effects to socioeconomics when considered in combination with past actions and the current Proposed Action. Any changes in land use necessary for future projects are undetermined at this time and therefore not reasonably foreseeable for this analysis. As with consideration of indirect effects, the potential for socioeconomic effects depends on factors outside the scope of this project, including the local and regional economy, local zoning and land use regulations, and demographics.

4.3.6 Resources Evaluated as part of the CEPA Process

4.3.6.1 Climate Change and Sea Level Rise

Focusing on the Saugatuck River corridor from the mouth of the river in Long Island Sound to Route 1, only the On-Alignment and Off-Alignment Replacement Alternatives have the potential to provide cumulative benefits to climate resilience of the transportation infrastructure as described in Section 3.15.1. Given CTDOT's position to develop and implement adaptation strategies to ensure the transportation infrastructure of the state is prepared for the impacts of climate change (CTDOT, 2024) future actions are anticipated to provide cumulative resilience benefits. While the No Build, Conservation, and Rehabilitation alternatives result in a negative effect on future resilience, no cumulative impact to transportation resilience is anticipated because of the CTDOT's policy on climate adaptation mentioned above.

5 Other NEPA / CEPA Considerations

Disclaimer: Information containing reference to accessibility is pertinent to CEPA review only and is not necessarily endorsed by FHWA.

5.1 Irreversible and Irretrievable Commitment of Resources

The proposed project involves a commitment of natural, physical, human, and fiscal resources. Irreversible and irretrievable commitment of resources associated with the proposed project consists of resources that remain committed to the project through its lifespan (i.e., irreversible commitment) or those that are consumed or permanently impacted during project construction and operation as a result of the proposed project (i.e., irretrievable commitment).

The No Build alternative would not result in an immediate commitment of resources. However, due to the bridge's existing condition, it is expected that an increase in human and fiscal resources would be required to maintain the bridge. Under each of the Build Alternatives, the proposed project would result in the unavoidable loss of wetlands. The construction of new piers in the Replacement Alternatives would also result in the loss of river bottom habitat. Permanent relocation of parking and driveway access on two properties would be required for the Off-Alignment Replacement Alternative. As discussed throughout Section 3, where applicable, state and federal permitting and approvals would identify measures to avoid, minimize, or mitigate impacts to resources.

Labor and construction materials such as steel, cement, aggregate, and bituminous materials are used. Additionally, labor and natural resources are used in the making of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect on the continued availability of these resources. Any construction would also require a one-time use of both state and federal funds, which are not retrievable. In addition to the costs of construction, there would be irretrievable costs associated with obtaining temporary easements. The off-alignment alternative would result in irretrievable costs associated with a permanent partial taking.

Savings in time and potential for a more resilient bridge may offset these irretrievable commitments of resources. The commitment of these resources is based on the concept that the improvements would benefit users of the bridge and the overall quality of the State's transportation system. These benefits would consist of improved mobility and safety, which are expected to outweigh the commitment of these resources.

5.2 Relationship between Short-Term Uses of the Environment and Maintenance and Enhancement of Long-Term Productivity

NEPA requires an assessment of the relationship between the project's short-term uses of the environment and the project's long-term benefits and productivity. Short-term is defined as the 2-to-3-year construction period,[31] which is the time period when the majority of environmental impacts have the potential to occur. Long-term is defined as the expected life span of the Build Alternative, which varies for each of the Build Alternatives evaluated in this EA/EIE from 25 to 100 years. The service life of the bridge under the Conservation and Rehabilitation Alternatives is expected to be 25 to 40 years, while under the Replacement Alternatives, it is expected to be 75 to 100 years.

The Build Alternatives' short-term uses of the environment would result in short-term impacts. Short-term uses and corresponding effects are summarized in Table 2-5. These impacts would be minimized by employing applicable construction best management practices and would be subject to applicable permitting and approvals.

The Conservation, Rehabilitation, and On-Alignment Replacement Alternatives would require installing a temporary bridge at a fixed elevation to the north of the existing bridge. The duration of the temporary bridge required for maintenance of traffic would vary from two to three years. The Off-Alignment Alternative would not require a temporary bridge. Short-term partial or full closure of the navigation channel may be needed during the construction of each of the Build Alternatives. This activity would be of the greatest intensity and duration for the Off-Alignment Replacement Alternative and the least for the Conservation Alternative. The channel restrictions would be more frequent and for longer durations under the two Replacement Alternatives. The Off-Alignment and On-Alignment Alternatives would result in increased vertical clearance of the bridge in the closed position.

[31] This is an anticipated typical construction period associated with the Build Alternatives that will be refined as the design development progresses.

Long-term productivity relates to the longevity of the project and the project's consistency with local, regional, and state-wide planning and policies. The No Build, Conservation, and Rehabilitation Alternatives would not be fully consistent with regional and state hazard mitigation plans or long-term transportation plans that aim to improve the safety of the traveling public, provide more bicycling infrastructure, and reduce long-term risks to infrastructure from flooding. Each of the Replacement Alternatives are inconsistent with the Town of Westport 2017 POCD, which aims to maintain the existing bridge, but are otherwise consistent with other state and regional plans.

The Build Alternatives' long-term benefits would vary by alternative. The Rehabilitation Alternative would address several structural and functional deficiencies and provide water-resistant features to the bridge's electrical machinery, making it slightly more resilient to flooding. The long-term benefits of the two Replacement Alternatives would include meeting current structural and functional design standards. The Replacement Alternatives would provide adequate travel way widths, shoulders, and an ADA compliant walkway, as well as safer accommodations for bicyclists. The Replacement Alternatives would be resilient to flooding and would be capable of faster and more efficient bridge openings thereby reducing traffic delays. The Replacement Alternatives would also provide increased vertical clearance for marine vessels.

5.3 Cost-Benefit Analysis

The primary costs of the Build Alternatives arise from the monetary outlay and energy consumption required for constructing a Build Alternative. The estimated cost for the Build Alternatives ranges from approximately $49 to $86 million. An estimate of annual operational costs cannot accurately be provided at this time, but it is anticipated to be comparable to operational costs associated with the existing bridge, with some maintenance savings benefits related to the Build Alternatives as described below. While the funds expended for construction are a cost incurred by the State of Connecticut and the Federal government, this expenditure would result in short-term benefits for the local and regional construction industry by creating demand for construction-related jobs, resources, and construction materials and products.

Both Replacement Alternatives would result in safety and operational benefits with increased ADA-accessible and multimodal transportation accommodations. The two Replacement Alternatives would also provide maintenance and operational benefits by relocating the bridge's mechanical equipment out of the existing 100-year floodplain.

All of the alternatives would provide continued safe and reliable transportation across the Saugatuck River. However, under the No Build Alternative, continued deterioration over time would require intensive maintenance and repairs to maintain safe and reliable transportation. These repairs would become more frequent and intensive. The costs for these repairs would accumulate over time, and after those expenditures, the bridge would still have operational deficiencies and eventually require replacement.

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