7 PROPOSED MITIGATION AND MASSDOT PROPOSED SECTION 61 FINDINGS

7.1 INTRODUCTION

The CEQ regulations for implementing the NEPA require an EIS to discuss means to mitigate adverse environmental impacts (40 CFR 1502.16(h) and 1502.14(f)).

In accordance with the NEPA regulations, this chapter identifies and evaluates measures that would avoid or minimize impacts. As summarized in this chapter and discussed in greater detail in Chapter 4, certain impacts to environmental resources are unavoidable. For those impacts measures that minimize adverse impacts have been identified. These measures are discussed at the end of each resource section in Chapter 4 and summarized in this chapter.

The MEPA regulations, at 301 CMR 11.07(j), outline mitigation measures to be addressed in the EIR process, including an "assessment of physical, biological and chemical measures and management techniques designed to limit negative environmental impacts or to cause positive environmental impacts during development and operation of a Project."

The Secretary's Certificate[1] on the DEIR for the South Coast Rail project included requirements for the scope of the FEIR. The Certificate required that the FEIR include:

- "Details on the proposed measures, roles and responsibilities, and MassDOT's commitments to implement specific measures to promote smart growth and achieve the mitigation and environmental benefits described in the DEIR/S. The FEIR should discuss the mitigation planning and outreach process conducted during FEIR preparation."

- "Revised Section 61 Findings for all state agency permits that reflect the detailed mitigation commitments to be provided in the FEIR. [Greenhouse gas] commitments and related self-certification language should be included in the draft Section 61 Findings for [Massachusetts Department of Environmental Protection] permitting."

- "A separate chapter on mitigation measures, which should include a summary table of all mitigation commitments as well as the revised Section 61 Findings. The Section 61 Findings should describe the proposed mitigation measures, contain clear commitments to mitigation and a schedule for implementation, and identify parties responsible for funding and implementing the mitigation measures. The draft Section 61 Findings will serve as the primary template for permit conditions. Final Section 61 Findings will be included with all state permits issued for this project and will include conditions considered binding upon the proponent as mitigation commitments."

This chapter (Section 7.4) provides a description of MassDOT's commitments to mitigation for impacts on each of the environmental and social resources identified in the Secretary's Certificate on the ENF, with summary table listings all of the mitigation commitments (Tables 7.5-1 and 7.5-2). MassDOT's proposed Section 61 Findings are included as Section 7.2.

[1] Executive Office of Energy and Environmental Affairs. *Certificate of the Secretary of Energy and Environmental Affairs on the Draft Environmental Impact Report/Statement, South Coast Rail Project*. June 29, 2011.

7.2 PROPOSED SECTION 61 FINDINGS

This section of this joint FEIS/FEIR was contributed by MassDOT, which is solely responsible for its content. The information contained in this section is pertinent to the FEIR only, pursuant to the proponents' responsibilities under the Massachusetts Environmental Policy Act. The U.S. Army Corps of Engineers is not a proponent, does not have a role in MEPA compliance and does not have a position with regard to the data contained herein.

Massachusetts General Law Chapter 30, Section 61 authorizes state agencies with permitting responsibilities to make an official determination regarding potential impacts from a proposed project and whether impacts have been avoided, minimized, and/or mitigated for appropriately. The Law requires agencies/authorities to issue a determination that includes a finding describing the environmental impact, if any, of the project and whether all feasible measures have been taken to avoid or minimize said impact.

This section provides a brief overview of the project, explains the history of the MEPA review process for the proposed South Coast Rail project, outlines required state and federal permits and their authorities, summarizes mitigation commitments for permanent and construction-related impacts, and provides draft Section 61 determination language for state agencies.

7.2.1 Project Description

The South Coast Rail project is an initiative of MassDOT and the MBTA to bring public transportation to the South Coast region that will increase access to transit for an underserved area of the state, increase transit ridership, improve regional air quality, reduce greenhouse gas emissions, and support opportunities for smart growth and economic development.

The restoration of passenger rail service to the South Coast region has been extensively studied for over 20 years. Prior to 1958, the Middleborough, Stoughton, and Attleboro rail lines were part of the Old Colony Railroad system that provided service to Fall River and New Bedford from Boston's South Station, via Canton Junction, along the Stoughton Branch railroad. Since discontinuation of this service, commuter rail has only been available to southeastern Massachusetts along the Boston-Providence Shore Line, with stops in Attleboro and South Attleboro, and the Old Colony Middleborough Line, which terminates in Lakeville. However, none of these provide an opportunity for commuters from the Fall River or New Bedford areas to easily or efficiently access rail transportation to Boston.

The MBTA has analyzed six alternatives for providing improved transportation between downtown Boston and the cities of Fall River and New Bedford. The three alternatives considered most viable were: (1) extending the existing MBTA Stoughton Line, (2) extending the existing MBTA Middleborough Line, and (3) providing new service, branching off from the Providence Line near Attleboro. A non-rail alternative, Rapid Bus, was also analyzed.

The Stoughton Alternatives would use existing active commuter and freight rail tracks (the Northeast Corridor, Stoughton Line, New Bedford Main Line, and Fall River Secondary) and a segment of out-of-service rail right-of-way (the Stoughton Line between Stoughton Station and Weir Junction in Taunton). Three existing commuter rail stations would be modified (Canton Junction, Canton Center, and Stoughton) and ten new stations constructed (North Easton, Easton Village, Raynham Place, Taunton, Taunton Depot, Freetown, Fall River Depot, Battleship Cove, King's Highway, and Whale's Tooth). The

South Coast Rail project also includes two overnight layover facilities, at the Weaver's Cove East site in Fall River and at the Wamsutta site in New Bedford.

MassDOT has identified the Stoughton Alternative as its Preferred Alternative and has not identified a preference between the Stoughton Electric and Stoughton Diesel Alternatives (see MassDOT's Preface to the FEIS/FEIR).

The South Coast Rail project also includes two overnight layover facilities, at the Weaver's Cove East site in Fall River and at the Wamsutta site in New Bedford.

The railway would consist of single track, with passing sidings as needed, to reduce wetland impacts. A trestle through the Hockomock Swamp ACEC would minimize impacts to wildlife habitat and rare species. Stations have been designed to minimize traffic impacts and land acquisitions.

7.2.2 History of MEPA Review

The restoration of passenger rail service to the South Coast region has been extensively studied for almost twenty years. Prior to 1958, the Middleborough, Stoughton (via the Whittenton Route), and Attleboro rail lines were part of the Old Colony Railroad System that provided service to Fall River and New Bedford from Boston's South Station, via Canton Junction, along the Stoughton Branch railroad. Since discontinuation of this service, commuter rail has only been available to southeastern Massachusetts along the Boston-Providence Shore Line, with stops in Attleboro and South Attleboro, and the Old Colony Middleborough Line, which terminates in Lakeville. However, none of these provide an opportunity for commuters from the Fall River or New Bedford areas to easily or efficiently access rail transportation to Boston.

In 2000, the MBTA completed a DEIR that analyzed six alternative routes for providing improved transportation between downtown Boston and the cities of Fall River and New Bedford. The DEIR focused on what were viewed then as the three most viable alternatives: (1) extending the existing MBTA Stoughton Line, (2) extending the existing MBTA Middleborough Line, and (3) providing new service, branching off from the Providence Line near Attleboro.

In 2002, a FEIR, submitted by the MBTA, concluded that extending the Stoughton Line was the most practicable and feasible of the alternatives and MassDOT received state-level approval from the Secretary of Environmental Affairs to proceed with planning for the South Coast Rail project as an extension of the existing Stoughton Line. On August 30, 2002, the MEPA Secretary issued a Final Certificate (Executive Office of EEA File # 10509) stating that the FEIR adequately and properly complied with MEPA and its implementing regulations. Due to the lapse of time, MassDOT has undertaken a new review under MEPA.

An ENF was submitted for review under MEPA on November 15, 2008. After public review, the Secretary of the Executive Office of EEA issued a Certificate on the ENF on April 2, 2009. The Certificate found that an Environmental Impact Report was required, and provided a detailed scope for that document.

As noted above, for the project to proceed to construction, it is necessary to obtain a Clean Water Act Section 404 permit from the Corps to authorize placement of dredged or fill material in "waters of the United States." Therefore, the USACE is conducting a review of the project under NEPA. A Notice of Intent to prepare an EIS was published in the Federal Register on October 31, 2008.

On March 23, 2011, the Notice of Availability for the South Coast Rail project DEIS/DEIR was published in the Environmental Monitor. The USEPA published a NEPA Notice of Availability in the Federal Register on March 25, 2011. After detailed review, on June 29, 2011 the Secretary issued a Certificate on the 2011 DEIR. The Secretary's Certificate stated that "I hereby determine that the Draft Environmental Impact Report/Statement (DEIR/S) submitted for this project adequately and properly complies with MEPA. The Proponent, the Massachusetts Department of Transportation (MassDOT) should submit a FEIR in accordance with the Scope below. As was the case with the DEIR/S, MassDOT may adopt the Final Environmental Impact Statement (FEIS), which is being prepared by the U.S. Army Corps of Engineers, as its FEIR and submit a combined Final EIR/EIS for MEPA review, as long as the FEIS meets the scope below." The Secretary's Certificate on the 2011 DEIR also stated that "I am satisfied that MassDOT has made the case for the Stoughton Route to be brought forward as the preferred alternative in the FEIR. …MassDOT did not identify a preferred mode among the diesel and electric alternatives. However, because the electric alternative is preferable from an air quality perspective, the Stoughton Electric [Alternative] should be the focus of the FEIR."

For the purpose of NEPA and Section 404(b) permitting, both the Stoughton and Whittenton Alternatives (electric and diesel versions) were evaluated in this FEIS/FEIR.

7.2.3 Related Permits and Approvals

In addition to compliance with the NEPA and the MEPA, a number of local, state, and federal permits are needed for the proposed project, as listed in Table 7.2-1.

Table 7.2-1 Required Permits and Approvals

Issuing Agency	Approval or Permit
U.S. Army Corps of Engineers	Clean Water Act, Section 404 Individual Permit
	Section 10 of the Rivers and Harbors Appropriation Act of 1899
U.S. Environmental Protection Agency Region I	National Pollutant Discharge Elimination System, Construction General Permit
U.S. Coast Guard	Section 9 of the Rivers and Harbors Appropriation Act of 1899
Massachusetts Office of Coastal Zone Management	Coastal Zone Management, Federal Consistency Determination
Massachusetts Executive Office of Energy and Environmental Affairs	Public Benefits Determination
Massachusetts Department of Environmental Protection	Massachusetts Wetlands Protection Act Variance
	Massachusetts Public Waterfront Act License(s) (Chapter 91)
	Clean Water Act, Section 401 Water Quality Certificate
	Section 61 Finding
Massachusetts Department of Fish and Game	Massachusetts Endangered Species Act Conservation and Management Permit
Massachusetts Historical Commission	Review of project for impacts to historic and archaeological properties and approval for compliance with M.G.L. Chapter 9, Sections 26-27C
	Memorandum of Agreement (with Corps and MassDOT)
	Section 61 Finding

7.2.4 Draft Section 61 Findings

Draft Section 61 Findings for the Project have been prepared by MassDOT to comply with the requirements of Massachusetts General Laws, Chapter 30, Section 61, and MEPA regulations at 301 CMR 11.07(6)(k), which require state agencies and authorities to review, evaluate, and determine the impacts on the natural environment of all projects or activities requiring permits issued by the state. State agencies are also asked to issue findings describing environmental impacts and to certify that all feasible measures have been taken by MassDOT to avoid or minimize these impacts. Section 61 Findings will be required from agencies with responsibilities for issuing the following permits, and from MassDOT for funding for the construction:

- Section 401 Water Quality Certification;
- Wetland Protection Act permit Variance;
- Massachusetts Endangered Species Act Conservation and Management Permit; and
- Massachusetts Public Waterfront Act (Chapter 91) License.
- Massachusetts Coastal Zone Management Consistency Determination

The italicized text in the following paragraphs is a proposed Section 61 Finding by MassDOT that extends to cover all potential impacts of the project.

Project Name: *South Coast Rail*

Project Location: *Fall River/New Bedford to Boston*

Project Proponent: *Massachusetts Department of Transportation*

EOEA Number: *14346*

The potential environmental impacts of the project have been characterized and quantified in the Final EIS/EIR, which are incorporated by reference into this Section 61 Finding. Throughout the planning and environmental review process, MassDOT has been working to develop measures to mitigate significant impacts of the proposed safety improvements. With the mitigation proposed and carried out in cooperation with state agencies, [Agency] finds that there are no significant unmitigated impacts.

MassDOT has prepared Tables of Mitigation (Tables 7.4-1, 7.5-1 and 7.5-2 of the FEIS/FEIR) that specify, for both temporary and permanent impacts, the mitigation that MassDOT will provide.

Therefore, [Agency] having reviewed the MEPA filings for the South Coast Rail Project, including the mitigation measures summarized in Chapter 7 of the FEIS/FEIR, finds pursuant to M.G.L. C. 30, §61 that, with the implementation of these mitigation measures, all practicable and feasible means and measures will have been taken to avoid or minimize potential damage from the project to the environment. In making this finding, [Agency] has considered reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise.

7.3 AVOIDANCE AND MINIMIZATION

As described throughout this FEIS/FEIR, measures have been identified to avoid and minimize impacts, while meeting the transportation purpose and need of the project.

Chapter 3 describes the alternatives analysis process that resulted in selection of the Stoughton Alternative as the Preferred Alternative. This alternative best meets the project purpose and need balanced with a minimum of environmental impacts.

The Stoughton Alternative has been designed by MassDOT to avoid or minimize impacts to environmental and social resources. This alternative was developed to maximize the use of existing transportation infrastructure corridors, thereby avoiding or minimizing impacts to undeveloped lands and natural resources. Chapter 3 documents the iterative process of identifying sites for potential stations and layover facilities that sought to avoid impacts to wetlands, threatened and endangered species habitat, water resources, ACECs and open space, as well as to residential areas and businesses. The railway would consist of single track, with passing sidings as needed, to reduce wetland impacts. A trestle through the Hockomock Swamp ACEC would minimize impacts to wildlife habitat and rare species. Stations have been designed to minimize traffic impacts and land acquisitions.

MassDOT anticipates that additional measures to minimize unavoidable impacts would be undertaken during the preliminary and final design through (among other elements) the refined grading design of tracks and roadways, station layout, and the design of bridges and culverts to meet Massachusetts River and Stream Crossing Standards where feasible. Unavoidable impacts will be mitigated as described below.

7.4 PROJECT MITIGATION COMMITMENTS

The South Coast Rail Stoughton Alternative was developed to meet the critical transportation need of the Project, while recognizing the need to balance the Project's benefits with the direct and indirect impacts on natural resources, including the use of mitigation strategies. This has been an ongoing iterative process that will continue to identify and incorporate additional avoidance and minimization strategies through further, more detailed design, construction and operation. Some impacts to natural resources are unavoidable.

Pursuant to the USEPA Section 404(b)(1) Guidelines, the Corps of Engineers, in its Section 404 review, applies a 3-tiered approach in evaluating mitigation proposals. In conducting the 404(b), the Corps must ensure (1) avoidance of impacts to the aquatic environment to the maximum extent practicable; (2) minimization of impacts to the aquatic environment to the extent practicable and finally (3) compensatory mitigation of unavoidable aquatic resource losses. Further, the LEDPA determination is made independent of evaluation of mitigation.

MassDOT's mitigation commitments are consistent with the requirements for federal environmental review by the USACE. The level of detail at this stage of design is appropriate to support the environmental analysis, comparison of the No-Build and Build Alternatives, and development of conceptual mitigation measures. During preliminary and final design more detailed and specific mitigation measures and comparison of mitigation alternatives will be developed.

The following sections provide an overview and outline of the conceptual mitigation measures for impacts identified in Chapter 4 that would be developed as more specific, implementation-oriented

mitigation measures during preliminary and final design. The mitigation measures that MassDOT and MBTA have committed to are listed in Table 7.5-1 and 7.5-2 for permanent and construction impacts, respectively. The mitigation requirements described in the Secretary's Certificate on the 2011 DEIR are also listed; the mitigation requirements of the Secretary's Certificate on the 2008 ENF were provided in the 2011 DEIR and are not reiterated here.

7.4.1 Transportation

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should

- Respond to the comments regarding traffic congestion and potential delays in emergency services and include details of any mitigation proposed.

Section 4.1.5 of this FEIS/FEIR provides an overview of the transportation mitigation measures that will be incorporated during preliminary and final design, and reviewed with the individual municipalities as part of the final design process. The proposed traffic mitigation measures include improvements to pedestrian facilities (crosswalks, sidewalks), roads (streets, signage, traffic signals), grade crossings (gates, signals), and coordinating with local emergency service providers during design. The specific locations where mitigation measures are proposed for transportation impacts are listed in Table 7.4-1, while the overall mitigation commitments are provided in Tables 7.5-1 and 7.5-2.

Table 7.4-1 Proposed Traffic Mitigation Measures near Stations

Station	Intersection/Roadway	Mitigation
North Easton Station	Route 138 at Roche Bros. Way	Revise signal timings
	Route 138 at Main St.	Revise signal timing, including longer pedestrian timings
	Route 138 at Elm St.	Widen Route 138 to provide two lanes northbound and southbound Install traffic signal
	Route 138 at Union St.	Widen Route 138 to provide two lanes northbound and southbound Install traffic signal
Easton Village Station	Route 138 at Belmont Street	Revise signal phasing and timings
	Main Street at Center Street/Lincoln Street	Install pavement marking and signage improvements
	Lincoln Street at Barrows Street	Install pavement marking and signage improvements
Raynham Park Station	Route 138 at Elm St.	Revise signal timing, including longer pedestrian timings
	Arlington Street at School Street	Re-align Robinson Street to create 4-way intersection Widen Route 138 to provide two lanes northbound and southbound Install traffic signal
Taunton Station	Broadway and Washington Street	Revise signal timing
	Dean Street at Longmeadow Street	Restripe Longmeadow Street to provide two southbound lanes Revise signal timing, including longer pedestrian timings
	Dean Street at Prospect Street	Install pavement marking and signage improvements

Station	Intersection/Roadway	Mitigation
	Dean Street at Arlington Street	Reconstruct traffic signal system based on new adjacent grade crossing equipment Widen Arlington Street to provide two southbound lanes
	Arlington Street at School Street	Convert to all-way stop
Taunton Depot Station	Route 140 at Hart Street	Revise signal timing
	Taunton Depot Drive	Construct sidewalk along the northern side of the Target Plaza parking lot to station area
King's Highway Station	King's Highway	Install signal interconnect infrastructure between Mount Pleasant Street and Church Street
	Mount Pleasant Street at Jones Road/ King's Highway	Revise signal phasing and timings
	King's Highway at Shaw's Drive	Improve signal equipment, phasing and timing to provide concurrent pedestrian crossing
	King's Highway at Stop & Shop Drive	Pre-empt grade crossing signals Reconfigure Stop & Shop Drive to accommodate diverted Tarkiln Hill Road traffic
	Tarkiln Hill Road at Church Street	Pre-empt grade crossing signal Revise signal timing , including longer pedestrian timings
	Acushnet Avenue at Hillman Street	
Whale's Tooth Station		Improve crosswalks and pedestrian ramps
	Acushnet Avenue	Construct approximately 300 feet of sidewalk along east side of Acushnet Avenue
	Mill Street at Pleasant Street and Kempton Street	Revise signal timing, including longer pedestrian timings
	Coggeshall Street at North Front Street	Install traffic signal
	South Main Street	Construct approximately 1,600 feet of sidewalk along the east side of South Main Street
Freetown Station	South Main Street at Narrows Road	Improve crosswalks and pedestrian ramps
	South Main Street at Copicut Street	Improve crosswalks and pedestrian ramps
	North Main Street at President Avenue	Widen North Main Street to provide an exclusive northbound and southbound left-turn lane Modify traffic signal phasing to provide a westbound lead phase and exclusive pedestrian phase
Fall River Depot Station	President Avenue at N. Davol Street	Improve pedestrian timing
	Broadway at Central Street	
Battleship Cove Station		Improve crosswalks and pedestrian ramps
	Broadway at Anawan Street	Improve crosswalks and pedestrian ramps
	Brock Street at Washington Street	
Stoughton Station		Install traffic signal

Station	Intersection/Roadway	Mitigation
	Wyman Street at Summer Street/Morton Street	Reconstruct intersection (eliminating driveways, realign Morton St. and install stop sign).

7.4.2 Visual

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include clear commitments to specific measures to minimize or mitigate visual impacts associated with the proposed layover facilities.

Section 4.5.5 of this FEIS/FEIR provides an overview of the visual mitigation measures that will be incorporated during preliminary and final design. The proposed visual mitigation measures include siting and designing facilities to minimize changes to the visual landscape, and minimizing vegetation removal along the right-of-way. The proposed Wamsutta layover facility site is in an industrial setting partially occupied by an existing rail yard; the new facility would not appreciably alter the visual environment. The proposed Weaver's Cove East layover facility site is an undeveloped parcel adjoining an abandoned industrial facility and across a primary surface street from a residential neighborhood. It may adversely affect the visual setting of the North Main Street District of Fall River. Mitigation measures such as screening and light minimization would be incorporated during preliminary or final design. The specific mitigation measures proposed for visual impacts are listed in Tables 7.5-1 and 7.5-2.

7.4.3 Noise

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include a detailed mitigation plan with commitments at an appropriate level to mitigate for project-related noise impacts.

Section 4.6.3.6 of this FEIS/FEIR provides an overview of the noise mitigation measures that would be incorporated during preliminary and final design. The *Noise and Vibration Mitigation Plan* proposes noise mitigation measures at specific locations. The proposed noise mitigation measures include, for severe noise impacts, installing noise barriers at four locations that meet the MBTA's policy for a noise barrier as a mitigation measure:

- Center Street area from Main Street to Bridge Street in Easton;
- Baldwin Street area from Bridge Street to Parker Terrace in Easton;
- Murray Street area from Brightman Street to Cory Street in Fall River; and
- Almy Street area from Cory Street to President Avenue in Fall River.

For the remaining severely impacted sensitive receptor locations, building insulation is the most cost-effective noise mitigation for reducing the noise impact associated with the rail operations along the Stoughton Electric Alternative. Sound insulation would be provided where appropriate at the remaining sensitive receptor locations that would be impacted by the project. The specific mitigation measures proposed for noise impacts are listed in Tables 7.5-1 and 7.5-2.

7.4.4 Vibration

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include a mitigation plan with clear and specific commitments to address vibration impacts and an explanation of the reductions in VdB levels expected.

Section 4.7.5 of this FEIS/FEIR provides an overview of the vibration mitigation measures that will be incorporated during the preliminary and final design process. The *Noise and Vibration Mitigation Plan* proposes vibration mitigation measures at 39 locations along the following streets:

- Stoughton:
  - Brock Street/Washington Street;
  - Rogers Drive/Plain Street; and
  - Smyth Street/Washington Street.
- Easton:
  - Center Street/Williams Street/Avis Circle/Baldwin Street;
  - Laurel Drive;
  - Short Street/Lantern Lane;
  - Kennedy Circle; and
  - Prospect Street.
- Raynham:
  - Bridge Street;
  - Elm Street West;
  - Carver Street;
  - Britton Street; and
  - Wampanoag Road/King Phillip Street/Chickering Road.
- Taunton:
  - Thrasher Street/Malcolm Circle;
  - Summer Street;
  - High Street/Paul Bunker Drive;
  - Hart Street/Alegi Avenue; and
  - Williams Avenue/Plain Street.

- Berkley:
    - Padelford Street;
    - Mill Street; and
    - Adams Lane.
- Freetown:
    - Braley Road;
    - Richmond Road;
    - Forge Road; and
    - High Street/Alexander Drive.
- New Bedford:
    - Lynn Street; and
    - Purchase Street.
- Fall River:
    - Leeward Road;
    - Rolling Green Drive;
    - North Main Street;
    - Pickering Street/Clinton Street/St. James Street;
    - Murry Street/Cory Street/Ballard Street/Almy Street/Railroad Avenue/North Court Street/Brownwell Street/Thompson Street;
    - Dyer Road;
    - Durfee Street/Cedar Street;
    - Maple Street; and
    - Meadow Street.

The proposed vibration mitigation measures include installing ballast mats under the track and using special track construction techniques such as continuously welded rails. The specific mitigation measures proposed for vibration impacts are listed in Table 7.5-1.

7.4.5 Cultural Resources

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Evaluate mitigation opportunities, including repairs and rehabilitation, for the historic train station in Stoughton;
- Expand on the analysis provided in the DEIR/S with a detailed mitigation plan for impacts to significant historic and archaeological resources; and
- Include commitments to specific mitigation measures for any impacts to cultural resources of importance to Native American Tribes.

The former Stoughton Station building is owned by the MBTA but is not part of the functioning station. The MBTA has declared the building to be surplus and offered it for sale. The Transit Realty Authority issued an Invitation to Bid in 2012, and the sale will include a protective covenant to protect the integrity of the historic building. The sale and re-use of the existing former station building is independent of the South Coast Rail project. The station building cannot be re-used as part of the relocated station, as it is not located adjacent to the proposed station.

As described in Section 4.8.5 of this FEIS/FEIR, MassDOT will develop specific cultural resources mitigation measures during the preliminary and final design process. The mitigation measures will be memorialized in a Programmatic Agreement (PA) to be developed after the FEIS/FEIR is completed, and will be executed by the USACE, MassDOT, the Massachusetts Historical Commission, and potentially other consulting parties. MassDOT will analyze specific construction sites and select mitigation measures during National Historic Preservation Act Section 106 consultation. Detailed site investigations and/or data recovery will be conducted where impacts to archaeological resources are unavoidable.

The mitigation measures that may be implemented to minimize impacts to historic resources include preparing historic archival documentation and providing interpretive signs at archaeological sites, designing stations to be compatible with the character of surrounding historic properties, and using the noise and vibration mitigation measures identified above to minimize impacts to cultural resources. The specific mitigation measures proposed for impacts to cultural resources, which are based on the draft PA, are listed in Tables 7.5-1 and 7.5-2.

7.4.6 Air Quality

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include commitments to construction-related mitigation measures;
- Include in the mitigation plan an update on consultation with the Massachusetts Department of Energy Resources, Division of Green Communities in regard to developing a joint approach to promote energy efficiency and greenhouse gas reductions in South Coast Rail communities; and
- Describe in detail the specific commitments that MassDOT will make to contribute towards reductions in vehicle miles travelled and related greenhouse gas emissions through the proposed feeder bus system.

Section 4.9.4 of this FEIS/FEIR provides an overview of the air quality mitigation measures for construction activities that will be incorporated during preliminary and final design. The proposed air quality mitigation measures during construction are listed in Tables 7.5-1 and 7.5-2 and include requirements that contractors adhere to all applicable regulations regarding control of construction vehicle emissions, use after-engine emission controls and ultra-low sulfur diesel fuel, and control dust at construction sites. During operation, the Build Alternatives are expected to reduce air quality impacts as compared to the No-Build Alternative. MassDOT will support the feeder bus system to contribute towards reductions in vehicle miles travelled and related greenhouse gas emissions.

MassDOT has not consulted further with the DOER Division of Green Communities or utility companies at this early planning stage of the project. Selection of an Electric Alternative over a Diesel Alternative would reduce GHG emissions from the project, and the reduction of VMT which would result from the

project under any alternative would further reduce GHGs. No further GHG mitigation measures are proposed.

7.4.7 Biodiversity and Wildlife Habitat

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include a detailed evaluation of potential mitigation measures to improve habitat connectivity by methods such as wildlife passage structures through the rail bed and improvements to stream crossings to facilitate passage of fish and wildlife designed so as not to compromise the hydrology of wetlands on either side of the rail bed;

- Propose mitigation measures for unavoidable impacts to wetland hydrology from stream crossing modifications;

- Include an analysis of spans and open bottom arches to meet the Stream Crossing Standards, and consider such arches as mitigation measures throughout the entire rail alignment to the extent they are practicable to improve fish and wildlife passage, and do not interfere with safe train operations;

- Clarify commitments to time-of-year restrictions on construction for specific fish species, or demonstrate that they may not be required if construction is located outside of the area used by diadromous species or uses methods that will not affect fish passage or use spawning riffles;

- Include time-of-year construction restrictions to protect migratory birds;

- Describe commitments to specific enhancements in the Hockomock Swamp and other areas along the rail alignment, as well as commitments to biodiversity protection through land acquisition and conservation;

- Describe proposed measures to avoid and minimize construction and train operational noise impacts during critical wildlife breeding season in spring and early summer; and

- Assess barrier effects to wildlife movement in the Acushnet Cedar Swamp and proposed scheduling and/or other measures to minimize impacts to wildlife movement during project construction and operation.

Section 4.14.3.6 of this FEIS/FEIR provides an overview of the biodiversity mitigation measures that will be incorporated during preliminary and final design. These mitigation measures include replacing bridges and culverts that connect areas of high biodiversity with structures that meet Stream Crossing Standards to facilitate fish and wildlife passage through the rail bed, constructing new wildlife crossings (such as between-rail tunnels) for turtles and amphibians, enhancing or replacing disturbed habitat, and phasing construction with time-of-year restrictions to protect species in sensitive areas during migration or breeding seasons. The specific mitigation measures proposed for impacts to biodiversity and wildlife habitat are listed in Tables 7.5-1 and 7.5-2.

7.4.8 Threatened and Endangered Species

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Explain in detail how the project will meet the long-term "net benefit" standard in 321 CMR 10.23 regarding impacts to state-listed endangered species, including detailed mitigation plans that should be developed in consultation with the Natural Heritage and Endangered Species Program.

Section 4.15.3.6 of this FEIS/FEIR provides an overview of the endangered species mitigation measures that will be incorporated during preliminary and final design. These mitigation measures include the biodiversity and wildlife habitat mitigation measures described above as well as off-site habitat protection and preservation, and funding research programs to benefit state-listed species. MassDOT has coordinated with the Natural Heritage and Endangered Species Program (NHESP) and the agencies are in agreement on the proposed mitigation measures. The specific mitigation measures proposed for impacts to threatened and endangered species are listed in Table 7.5-1.

7.4.9 Wetlands

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Propose mitigation measures that will allow the project to be conditioned to contribute to Wetland Protection Act interests. Mitigation measures will be required to off-set the project's direct, indirect, and cumulative impacts. The FEIR should describe specific mitigation measures that will directly mitigate wetland impacts, improve wetland conditions and avoid future indirect and cumulative impacts;

- Include detailed plans for Bordering Land Subject to Flooding mitigation and demonstrate how proposed mitigation will meet Wetlands Protection Act requirements;

- Provide details of mitigation plans for riverfront impacts;

- Describe how lost wetland functions and values will be mitigated;

- Evaluate opportunities to enhance wetlands near the Raynham Dog Track on the west side of the alignment as well as potential "undevelopment" and restoration of portions of the dog track site. The FEIR should identify measures that MassDOT is committed to implement; and

- Identify targeted lands for acquisition by MassDOT as mitigation for the cumulative and indirect impacts to wetlands.

The Secretary's Certificate on the 2011 DEIR also stated that the wetlands mitigation plan should include:

- A 2:1 ratio for Bordering Vegetated Wetlands mitigation (at a minimum), at least 1:1 for all other wetlands. Where the USACE requires higher ratios (e.g., for forested wetlands), the mitigation plan should reflect the federal requirements;

- At least a 2:1 mitigation of rare species impacts subject to consultation with NHESP. In some areas mitigation requirements may be considerably higher—because this is a linear project that results in habitat fragmentation and may have disproportionate impacts on some species;

- An evaluation of potential for restoration/preservation of Atlantic White Cedar (*Chamaecyparis thyoides*) wetlands;

- Meaningful Riverfront Area improvements and/or restoration to mitigate for riverfront impacts;

- On-site elevation-specific compensatory storage for lost flood storage, or if such compensatory storage cannot be provided, demonstrate an insignificant increase in flooding, demonstrate that any incremental increase in flooding could be contained on the Proponent's property, or acquire flood easements; and

- Wetland restoration within the Hockomock ACEC.

Section 4.16.10 of this FEIS/FEIR provides an overview of the wetland mitigation measures that will be incorporated during preliminary and final design. A conceptual mitigation design was prepared for each of the seven proposed wetland establishment and restoration sites. The design took into account the size, elevation, and existing conditions at each site, as well as vegetation cover types surrounding each site. These mitigation designs aim to produce wetland establishment and restoration areas that result in no net loss of wetland functions and values.

Conceptual mitigation measures proposed for impacts to wetlands are listed in Tables 7.5-1 and 7.5-2.

The amount of identified wetland establishment and restoration is greater than the amount required according the regulatory mitigation goals, to allow for changes and reductions to wetland mitigation designs where required based on field conditions. Sites identified as candidates for preservation to meet USACE mitigation requirements in excess of the 2:1 ratio wetland replacement required by MassDEP include a broad range of possible sites to ensure that opportunities for preservation can be developed once exact amounts of preservation acreage needed are known.

Wetland mitigation designs have been advanced to the same level of conceptual design as the track and stations. Final wetland mitigation designs will be developed during the subsequent final design process, after MassDOT has committed funding for project design and construction. It would be premature for MassDOT to acquire property and advance wetland mitigation at this stage of project development. MassDOT could secure options on properties for mitigation for the LEDPA once the regulatory agencies have agreed with the proposed mitigation sites.

7.4.10 Water Quality

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Clearly identify the Environmentally Sensitive Site Design and Low Impact Development measures to which MassDOT is committed to implement at the proposed stations, parking areas, and layover facilities.

Section 4.17.3.6 of this FEIS/FEIR provides an overview of the water quality and stormwater mitigation measures that will be incorporated during preliminary and final design. These mitigation measures include designing stations with ESSD and LID elements, using stormwater BMPs at stations and layover facilities, improving existing drainage ditches, installing sediment forebays and check dams, and using herbicides in accordance with a Vegetation Management Plan. Drainage from the Hockomock Swamp trestle would be managed in place through the use of infiltration trenches located at intervals beneath the trestle. Construction impacts to stormwater would be managed by a SWPPP. The specific mitigation measures proposed for impacts to water quality are listed in Tables 7.5-1 and 7.5-2.

7.4.11 Hazardous Materials

The Secretary's Certificate on the 2011 DEIR did not include any requirements for mitigation of hazardous materials.

Section 4.12.4 of the FEIS/FEIR provides an overview of the hazardous materials mitigation measures that will be incorporated during preliminary and final design. In accordance with MassDEP requirements, any materials that would be excavated from the project areas would be pre-characterized to determine course of action for removal. The specific mitigation measures proposed for hazardous materials are listed in Table 7.5-2.

7.4.12 Waterways

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include measures to compensate for impacts to public access to the shoreline.

Work within Chapter 91 jurisdictional non-tidal rivers and streams waterways will be limited to repairing or replacing existing bridges. The South Coast Rail project is expected to maintain or improve navigability that may exist in these streams by replacing multi-span bridges with single- or double-span structures, resulting in a net benefit to public access.

As discussed in Section 4.18.4, the South Coast Rail project will not result in any adverse impacts to public access along the shoreline within Chapter 91 jurisdiction. No mitigation is required. Work within filled tidelands is limited to repair, replacement or rehabilitating existing track, ballast and culverts within filled tidelands along existing railroad rights-of-way. These improvements within existing active rail corridors will not result in any new impacts to public access to the shoreline. A portion of the Weaver's Cove East would be constructed on filled tidelands. Access to the shoreline at this location is presently restricted by the presence of the active rail corridor. The proposed layover facility will not create any new obstacles to public access to the shoreline.

7.4.13 Public Open Space

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include a detailed plan to avoid and minimize impacts and/or to mitigate unavoidable impacts to open space; and

- Quantify all open space impacted by the project and describe mitigation commitments.

Section 4.10.3.6 of the FEIS/FEIR provides an overview of the public open space mitigation measures that will be incorporated during preliminary and final design. Only a small portion of one parcel protected by Article 97 would be required for project construction. The required acquisition is a 0.16-acre portion of the 19.38-acre Stoughton Memorial Conservation Land in Stoughton in order to re-route Morton Street. MassDOT will comply with the Article 97 Land Disposition Policy in identifying and acquiring a suitable replacement property on behalf of the Stoughton Memorial Conservation Land during final design. MassDOT will coordinate with the Town of Stoughton to support acquisition of target open space properties such as those identified in the *Open Space and Recreation Plan* (April 2007) to proportionately offset impacts to the Stoughton Memorial Conservation Land. It is anticipated that any acquisitions negotiated by MassDOT and the Town of Stoughton would be consistent with the *Stoughton Community Preservation Plan, FY2012-2015* (Draft, April 2012). The *Open Space and Recreation Plan* identifies 20 parcels that abut the existing Memorial Lands that are identified as "Areas of Conservation Interest" in the Community Preservation Plan, for their ability to provide a more contiguous holding in the Memorial Land. Land acquisition to comply with the provisions of Article 97 would focus on these parcels. Identifying specific parcels is not appropriate at this stage of the project since funds have not been allocated for design and construction.

7.4.14 Environmental Justice

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Include a list of specific mitigation commitments to address noise and vibration impacts to Environmental Justice neighborhoods;
- Clarify if there will be a disproportionate impact to an Environmental Justice community with regard to traditional cultural properties, and if so, what mitigation will be implemented; and
- Specify how financial impacts to Environmental Justice communities will be mitigated.

Section 4.4.3 of the FEIS/FEIR provides an overview of the mitigation measures that will be incorporated during preliminary and final design for impacts to resources within environmental justice neighborhoods. No disproportionate impacts, including financial impacts, would occur and mitigation measures for impacts unique to environmental justice populations are not required. Mitigation measures for unavoidable impacts to environmental justice populations address noise and vibration impacts as discussed in Sections 7.4.3 and 7.4.4, above, and will be incorporated during preliminary and final design.

7.4.15 Land Use

The Secretary's Certificate on the 2011 DEIR stated that the FEIR should:

- Explain how the Corridor Plan will be implemented in parallel with the proposed rail and station development to ensure appropriate timing of mitigation and to optimize the Smart Growth potential of the project.

Chapter 5 of the FEIS/FEIR provides a description of MassDOT's intent to support and monitor the smart growth components of the Corridor Plan. Implementation of the Corridor Plan is not the responsibility of

MassDOT. Executive Order 525 requires state agencies to support and implement the policies of the Corridor Plan.[2]

7.5 SUMMARY OF PROJECT MITIGATION MEASURES

The proposed South Coast Rail project will result in impacts to social and natural resources, including transportation, land use, social and economic resources, visual and aesthetic resources, noise, vibration, historical and archaeological resources, protected open space and ACECs, biodiversity, threatened and endangered species, wetlands, water quality, and Chapter 91 Waterways. As documented in Chapter 4, the South Coast Rail project will have beneficial effects on transportation, environmental justice populations, regional mobility, land use, economics, air quality, and climate. Implementation of smart growth measures (such as envisioned by the Corridor Plan), as discussed in Chapter 5 will contribute to long-term benefits in land use, land protection, and economic development and will better allow corridor communities to control future sprawl. The analysis of secondary and cumulative impacts demonstrates that smart growth can contribute to additional benefits with respect to air quality and climate.

7.5.1 Permanent Impacts

Permanent impacts resulting from construction of the South Coast Rail project would be mitigated, as described in Section 7.4 and summarized in Table 7.5-1. The proposed mitigation measures will be refined during the preliminary and final design.

Table 7.5-1 Proposed Project Mitigation Measures for Permanent Impacts

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
Transportation	Improve crosswalks and pedestrian ramps at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Reconfigure driveways and roads at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Pre-empt crossing signals at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Close intersections at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Improve pedestrian timing at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Construct sidewalks at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Improve signage at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Widen streets to provide exclusive turn lanes at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Re-stripe streets at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Modify traffic signal phasing and timing at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Install traffic signals at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Improve grade crossing safety at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA

[2] Governor Deval L. Patrick. 2010. Executive Order 525: Implementation of the South Coast Rail Corridor Plan. http://www.mass.gov/governor/legislationeexecorder/executiveorder/executive-order-no-525.html.

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
	Remove gates and signals at existing crossings and replace them with new gates, signals, and signal cases at locations specified in Table 7.4-1.	During construction	MassDOT/MBTA
	Remove vegetation at all grade crossings to improve sight distance.	During construction	MassDOT/MBTA
	Coordinate with local emergency service providers regarding grade crossing design.	During design	MassDOT/MBTA
	Install fencing along right-of-way in developed areas to discourage trespassing.	During construction	MassDOT/MBTA
Visual	Install screening in selected locations.	During construction	MassDOT/MBTA
	Select station lighting fixtures, designs, and technologies that minimize night sky impacts.	During design	MassDOT/MBTA
	Install station lighting that minimizes night-sky impacts.	During construction	MassDOT/MBTA
	Design facilities and structures to blend with the surrounding landscape.	During design	MassDOT/MBTA
Noise	Provide noise walls or other noise measures where sensitive land uses would be subject to Severe impacts (if cost-effective according to MBTA and FTA criteria; e.g., less than $30,000 per dwelling unit) at four locations along the alignment in Easton and Fall River: • Center Street Area, Easton (Main St to Bridge St) • Baldwin Street Area, Easton (Bridge St to Parker Terrace) • Murray Street Area, Fall River (Brightman St to Cory St) • Almay Street Area, Fall River (Cory St to President Ave)	During construction	MassDOT/MBTA
	Provide funding for building noise mitigation where sensitive land uses would experience severe impacts but walls are not cost-effective, at a rate of $5,000 per dwelling unit per decibel of noise impact above the Severe level, up to a maximum of $30,000 for 235 residences: • 21 in Stoughton • 56 in Easton • 23 in Raynham • 23 in Taunton • 14 in Berkley • 8 in Lakeville • 25 in Freetown • 12 in New Bedford • 53 in Fall River	During construction	MassDOT/MBTA
Vibration	Incorporate vibration mitigation measures into the design and operating plan, including continuously welded rail, ballast and sub-ballast depth specifications, turnout locations at least 100 feet away from sensitive receptors, and train and track maintenance (such as regular wheel re-truing) schedules.	During design	MassDOT/MBTA

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
	Install ballast mats under the tracks at up to 39 locations as specified in Section 4.7 of this FEIS/FEIR where mitigation is justified and soil conditions are appropriate.	During construction	MassDOT/MBTA
Cultural Resources	Where impacts to historic resources are unavoidable, prepare archival documentation and provide interpretive signs that describe for the public the site's history, features, and significance	During construction	MassDOT/MBTA
	Develop and implement a Cultural Resource Monitoring Program	During design and during construction	MassDOT/MBTA
	Develop a mitigation plan, in consultation with the USACE and MHC, to minimize adverse impacts to historic properties as identified in the Programmatic Agreement.	During design	MassDOT/MBTA
	Conduct additional archaeological survey in sensitive areas as identified in the Programmatic Agreement	During design	MassDOT/MBTA
	Evaluate specific construction sites (the Route 138 Grade Separation, proposed Stoughton Station) and conduct detailed site investigations and/or data recovery where impacts to archaeological resources are unavoidable	During design and during construction	MassDOT/MBTA
	In areas where there is a potential for vibration damage to historic structures, inspect building foundations prior to construction and monitor foundations during construction	During design and during construction	MassDOT/MBTA
	Install rubber ballast mats (or equivalent) or moveable point frog turnouts (or equivalent) to minimize potential for vibration-induced damage to historic buildings in Easton	During construction	MassDOT/MBTA
	Design Easton Village Station to be compatible with character of surrounding historic properties such as the adjacent railroad station	During design	MassDOT/MBTA
	Use non-contrasting paints on fences, roadway equipment, and signal bungalows; locate signs and fixtures in a sensitive manner within and adjacent to historic properties	During construction	MassDOT/MBTA
	Within historic districts, reduce visual impacts by reducing clearing and using screening planting and landscaping	During design	MassDOT/MBTA
	Minimize number of lighting poles adjacent to historic properties; paint poles a non-contrasting color	During design	MassDOT/MBTA
Air Quality	Consult with the Massachusetts Department of Energy Resources, Division of Green Communities in regard to developing a joint approach to promote energy efficiency and greenhouse gas reductions in South Coast Rail communities	During design	MassDOT/MBTA
	If diesel alternative is selected, use plug-ins and electric block heaters at rail layover facilities	During design	MassDOT/MBTA
Biodiversity	Where possible when engineering constraints and hydrology are taken into consideration, replace bridges and culverts that connect areas of high biodiversity with structures that meet Massachusetts River and Stream Crossing Standards to facilitate fish and wildlife passage through the rail bed. Table 4.14-36 of the FEIS/FEIR lists the culverts to be reconstructed to meet stream crossing standards.	During construction	MassDOT/MBTA
	Replant disturbed areas.	During construction	MassDOT/MBTA

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
	Develop and implement an invasive species control plan within the Hockomock Swamp	During construction	MassDOT/MBTA
	Install wildlife crossings (tunnel and between-tie crossings) at the locations specified in Chapter 4.14, *Biodiversity* (Table 4.14-37)	During construction	MassDOT/MBTA
	Consider slope modifications to avoid direct impacts to vernal pools	During design	MassDOT/MBTA
	Work with the Town of Easton and Southeast Regional Vocational School to identify measures to protect vernal pools on their respective properties from ATV damage	During design	MassDOT/MBTA
	Enhance natural vegetation within buffer zones to vernal pools, where appropriate.	During design	MassDOT/MBTA
	Adhere to the approved Vegetation Management Plan (see Water Quality section of this table).	During operation	MassDOT/MBTA
Threatened and Endangered Species	Install wildlife crossings (tunnel and between-tie crossings) to maintain population continuity for state-listed wildlife, at the locations specified in Chapter 4.14, *Biodiversity*.	During construction	MassDOT/MBTA
	Provide funding or land acquisition to protect up to 25 acres of land potentially used by the Hockomock Swamp population of Blanding's turtle.	During construction	MassDOT/MBTA
	If required by NHESP in the Conservation and Management Permit, fund a study of the Hockomock Swamp population of Blanding's turtle to assist NHESP in developing long-term protective measures.	During construction	MassDOT/MBTA
	Provide funding or land acquisition to protect up to 11 acres of land potentially used by the Hockomock Swamp population of blue-spotted salamander.	During construction	MassDOT/MBTA
	Provide funding to the NHESP eastern box turtle Mitigation Bank equivalent to protecting up to 17 acres of habitat, or directly protect up to 17 acres of habitat through land acquisition or restriction.	During construction	MassDOT/MBTA
Wetlands	Create/restore up to 33.7 acres of wetlands and waterways at up to seven sites, at ratios determined in consultation with MassDEP, USACE, depending on cover type, for no net loss of wetland functions and values. See Table 4.16-62 of the FEIS/FEIR.	During design and during construction	MassDOT/MBTA
	Create/restore up to 6.7 acres of BLSF to provide compensatory flood storage, as required by the WPA Variance. See Table 4.16-61 of the FEIS/FEIR.	During design and construction	MassDOT/MBTA
	Monitor compensatory wetlands for success and invasive plant species, and implement an Invasive Species Control Plan during a post-construction monitoring period as required by the Section 404 permit.	5-10 year post construction monitoring period	MassDOT/MBTA

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
	Select and preserve wetlands and adjacent developable uplands at Priority Preservation Area sites if the area of federal wetland mitigation needed would not be fully achieved by wetland establishment, enhancement, or restoration.	During design and construction	MassDOT/MBTA
Water Quality	Improve railroad drainage system to promote settling and infiltration.	During construction	MassDOT/MBTA
	Install sediment forebays and check dams upgradient of discharge points.	During construction	MassDOT/MBTA
	Line drainage ditches within drinking water protection areas.	During construction	MassDOT/MBTA
	Design traction power substations with secondary containment structures.	During construction	MassDOT/MBTA
	Install retention ponds, rain gardens, and other treatment/control features at station sites.	During construction	MassDOT/MBTA
	Design and install stormwater management systems at layover facilities to meet stormwater management standards for LUHPPLs.	During design and during construction	MassDOT/MBTA
	Adhere to the approved Vegetation Management Plan, as implemented with MassDOT's Yearly Operating Plans, which restrict the use of herbicides in areas adjacent to wetlands or sensitive resources.	During operation	MassDOT/MBTA
Article 97	Identify and acquire replacement open space to compensate for the loss of 0.16 acre of public open space in Stoughton.	Prior to construction	MassDOT/MBTA
Land Use	Implement the Smart Growth measures of the Corridor Plan as applicable in accordance with Executive Order 525.	Prior to, during, and after construction	State agencies listed in EO 525
	Provide incentives and guidance to municipalities for Smart Growth implementation.	Prior to, during, and after construction	State agencies listed in EO 525
	Monitor Smart Growth implementation using approved performance metrics.	Prior to, during, and after construction	EOHED

7.5.2 Construction Impacts

Temporary, short-term impacts from construction activities would be mitigated to the extent practicable as summarized in Table 7.5-2. Appropriate construction mitigation measures would be incorporated into the contract documents and specifications governing the activities of contractors and subcontractors constructing elements of the proposed project. Specific mitigation measures for construction impacts would be developed during the final design phase of the South Coast Rail project and would be reviewed by the appropriate regulatory agencies as part of the permit applications. Construction-period mitigation requirements would be incorporated into the final plans and specifications that would serve as the basis for the construction contract(s).

Table 7.5-2 Proposed Project Mitigation Measures for Construction-period Impacts

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
Visual	Avoid unnecessary tree clearing along rights-of-way	During construction	MassDOT/MBTA
Noise	Maintain mufflers on construction equipment.	During construction	MassDOT/MBTA
	Keep truck idling to a minimum in accordance with MassDEP anti-idling regulations.	During construction	MassDOT/MBTA
	Fit any air-powered construction equipment with pneumatic exhaust silencers.	During construction	MassDOT/MBTA
	Prohibit nighttime construction.	During construction	MassDOT/MBTA
	Institute time-of-year construction restrictions during breeding seasons in sensitive habitat areas including the Hockomock Swamp, Pine Swamp, and Acushnet Cedar Swamp.	During construction	MassDOT/MBTA
Cultural Resources	In areas where there is a potential for vibration damage to structures, inspect building foundations prior to construction and monitor foundations during construction.	During design and during construction	MassDOT/MBTA
Air Quality	Prohibit excessive idling of construction equipment and trucks in accordance with MassDEP anti-idling regulations.	During construction	MassDOT/MBTA
	Require that all diesel equipment used on-site will be fitted with after-engine emission controls, including diesel oxidation catalysts and/or particulate filters. This would include on-road vehicles on which catalysts or filters can be accommodated.	During construction	MassDOT/MBTA
	Require use of ultra-low sulfur diesel fuel for all construction vehicles.	During construction	MassDOT/MBTA
	Provide dust protection at work sites.	During construction	MassDOT/MBTA
Biodiversity	Avoid tree clearing within the right-of-way in the Hockomock Swamp, Pine Swamp, Assonet Cedar Swamp and Acushnet Cedar Swamp from May 1 to July 15.	During construction	MassDOT/MBTA
	Observe time-of-year restrictions for in-water bridge work as identified in Table 4.14-33 of the FEIS/FEIR (generally from March 15 to June 30). Coordinate with DMF to identify restrictions that protect fish spawning in the Taunton River while allowing bridge construction.		
Threatened and Endangered Species	Install staked, entrenched siltation fencing at all limits of work within rare species habitat areas.		
	Install one-way turtle gates within areas of mapped habitat of listed turtle species (Blanding's, eastern box).		
	Daily monitoring of the work area within areas of mapped habitat of listed turtle species from spring through fall, as required by the Conservation and Management permit. Any animals found within the work area would be relocated.		
	Restrict construction in the Hockomock Swamp to daylight hours during amphibian breeding season (March-April).		
Wetlands	Implement erosion and sedimentation control measures according to a Soil Erosion and Sediment Control Plan.	During construction	MassDOT/MBTA

Environmental Categories	Mitigation Measure	Implementation Schedule	Implementation Responsibility
Water Quality	Develop and implement a comprehensive Soil Erosion and Sediment Control Plan in accordance with NPDES and MassDEP standards.	During construction	MassDOT/MBTA
	Apply water to dry soil to prevent dust production.	During construction	MassDOT/MBTA
	Stabilize any highly erosive soils with erosion control blankets and other stabilization methods, as necessary.	During construction	MassDOT/MBTA
	Use sediment control methods (such as silt fences and hay bales), during excavation to prevent silt and sediment entering the stormwater system and waterways.	During construction	MassDOT/MBTA
	Maintain equipment to prevent oil and fuel leaks.	During construction	MassDOT/MBTA
	Design a construction-phase SWPPP that incorporates the following: Erosion and sediment controls Spill control procedures Proper handling of dewatering discharges	During construction	MassDOT/MBTA
Hazardous Materials and Solid Waste	Prepare Hazardous Materials and Solid Waste Management Plan, and Health and Safety Plan, to describe the regulatory context and procedures to be used during construction.	During design	MassDOT/MBTA
	Pre-characterize any materials that would be managed during the project to determine the course of action for excavation and disposal.	During construction	MassDOT/MBTA
	Pre-characterize construction materials in buildings that would be demolished to identify special or hazardous waste and determine the course of action for removal and disposal.	During construction	MassDOT/MBTA