

4.5 VISUAL AND AESTHETIC RESOURCES

4.5.1 Introduction

This chapter describes the visual character and aesthetic resources within and adjacent to the South Coast Rail Alternatives and identifies the effects to visual and aesthetic resources that may result from implementing each of the proposed South Coast Rail alternatives (including railroad or highway alignments, train or bus stations, and layover facilities).

Section 4.5.1 provides general information relative to the visual and aesthetic resources and associated regulations. Section 4.5.2 identifies and describes the specific viewpoints where elements of the rail corridor are, or may be, visible by the public and where adverse or beneficial impacts could occur. Sections 4.5.3 and 4.5.4 identify any changes in the visual setting that could have adverse impacts on the visual and scenic resources of importance to residents. Section 4.5.5 presents mitigation measures to minimize the visual impact of the project alternatives, and Section 4.5.6 outlines the regulatory compliance requirements for visual and aesthetic resources.

The Secretary of the Executive Office of EEA¹ issued a Certificate on the ENF on April 3, 2009. No specific requirements for evaluation of visual and aesthetic resources are included in the Certificate.

The Secretary's Certificate on the DEIR, dated June 29, 2011, included the following requirements in regard to National Wild and Scenic River resources:

- *“Taunton Wild and Scenic River.* The FEIR should include an update on consultations with the National Park Service regarding the status of Taunton River as a National Wild and Scenic River, and to discuss issues relating to water quality impacts from construction and stormwater runoff, rail line crossings of the Taunton and its tributaries, impacts to natural and cultural landscape features, selection and siting of layover facilities, and construction of the Fall River Depot station.”

4.5.1.1 Resource Definition

Visual and aesthetic resources are defined as the features or stimuli within the landscape and the values attached to those resources by the viewer upon which a visual experience is based. General visual elements of a rail line include:

- Crossing protection systems;
 - gates
 - pole mounted flashers
 - flashers on cantilevers
- Overhead railroad bridges crossing roads, water bodies or other natural features;
- At-grade road crossings (the rails);

¹ Formerly, the Executive Office of Environmental Affairs.

- Overhead catenary;
- Vegetation along right-of-way;
- Stations and/or platforms, parking and buildings; and
- Lighting at stations.

4.5.1.2 Regulatory Context

There are no state or federal regulations applicable to the evaluation of aesthetics and visual resources. The CEQ NEPA regulations do require that an EIS evaluate a proposed action's impact on "urban quality, historic and cultural resources, and the design of the built environment."²

4.5.1.3 Methodology

Views of potential project elements are observed and described from public viewpoints, based upon a pedestrian at street level. Existing viewpoints of project elements include:

- Views of each proposed station from the nearest public way;
- Views of proposed grade-separated crossings; and
- Views of the rail right-of-way from selected public viewpoints.

Viewpoints were selected based on an understanding of the proposed alternative alignments and station sites and the location's visibility from a public right-of-way. Field reconnaissance confirmed viewpoints and photographs were taken from each location. Each viewpoint is shown on a map, described in text, and documented with a photograph.

4.5.2 Existing Conditions

This section identifies and describes specific viewpoints where elements of the rail or highway corridor are, or may be, visible by the public and where adverse or beneficial impacts could occur. These viewpoints are identified and described below and depicted in Figures 4.5-1 through 4.5-29. Viewpoints are identified with a number that corresponds to the figures.³

4.5.2.1 Regional Context

The majority of the study area is an existing rail corridor or highway, some of which is inactive. As discussed in Chapter 4.2, *Land Use and Zoning*, these areas consist of a range of single-family and multi-family residences, and commercial, industrial and mixed-use buildings. The predominant land uses visible from the corridor are residential, natural resources (forest and other protected undeveloped land), and industrial or commercial centers of activity. The uses along the rail corridor vary depending on the location relative to urbanized centers.

² Council on Environmental Quality. 2009. Code of Federal Regulations (CFR), Title 40: Protection of the Environment, Part 1502-Environmental Impact Statement, Section 16(g) Environmental Consequences (40 CFR 1502.16(g)).

³ The viewpoints, numbered to coincide with the alternatives discussion (Southern Triangle, the Stoughton Alternatives, and the Whittenton Alternatives), are described generally north to south, east to west. Stations are numbered as they occur along each alignment. Viewpoint numbers are nonconsecutive.

Natural visual resources around the Project Area consist mostly of the open space resources discussed in Chapter 4.10, *Protected Open Space and Areas of Critical Environmental Concern*, and Chapter 4.16, *Wetlands*. These natural resources include ACECs, conservation land, wetland systems, and areas of important biodiversity value such as Hockomock Swamp, Pine Swamp, Assonet Cedar Swamp, Acushnet Cedar Swamp, Fowl Meadow and Ponkapoag Bog, and Forge Pond. Open space within view of the proposed rail corridors also includes passive and active recreation facilities such as Turner Playground, North Park, Freetown-Fall River State Forest, Stoughton Memorial Conservation Land, Ricker Field, Memorial Park, and municipal fields.

4.5.2.2 Existing Conditions within the Study Corridor

Southern Triangle (Common to all Build Alternatives)

This section describes typical (or representative) views of the New Bedford Main Line or the Fall River Secondary corridors from public streets. The New Bedford Main Line and the Fall River Secondary corridors are existing and active rail lines carrying freight. Tracks are visible primarily from cross-streets, where the general elements of rail lines are visible. Along these rail corridors, the primarily visible elements are crossing gates and lights.

Right-of-Way from Malbone Street (No. 1)

The right-of-way and grade crossing of the New Bedford Main Line at Malbone Street in Lakeville is characterized by pole-mounted flashers on either side of the right-of-way (Figure 4.5-1). There are no crossing protection gates or cantilevered flashers.⁴ At this viewpoint, Malbone Street is a narrow, two-lane roadway bordered by forest and low-density single-family residential land uses. The viewpoint was selected because of its location on a residential roadway and for the potential impacts of improving the grade crossing.

Right-of-Way from Samuel Barnet Boulevard (No. 2)

The right-of-way and grade crossing of the New Bedford Main Line at Samuel Barnet Boulevard in New Bedford is characterized by flashers on either side of the right-of-way and a gated access way along the right-of-way (Figure 4.5-2). The flashers are both pole-mounted and cantilevered over the roadway. Samuel Barnet Boulevard is a two-lane road with ample shoulders on either side and is forested at this viewpoint. The viewpoint was selected because of its location on a forested roadway and for the potential impacts of improving the grade crossing.

Grade Crossing from Tarkiln Hill Road and King's Highway (Nos. 3, 4, 5)

Shown from three viewpoints (Figure 4.5-3), the grade crossing of the New Bedford Main Line at Tarkiln Hill Road and King's Highway in New Bedford is characterized by dual-side grade crossing protection gates and pole-mounted flashers. Tarkiln Hill Road and King's Highway are each two-lane roads that create a three-way intersection at the rail right-of-way. Together these roadways serve as a high-traffic commercial corridor. This intersection is surrounded by retail land uses. These viewpoints were selected because of the high-traffic nature of this roadway and the anticipated need to upgrade this grade crossing.

⁴ A cantilevered flasher is a component of the grade crossing protection system that is suspended from a pole over the roadway. Flasher refers to the warning lights for automobiles.

Right-of-Way from Beechwood Road (No. 9)

The grade crossing of the Fall River Secondary at Beechwood Road in Freetown is characterized by pole-mounted crossing protection signs on either side of the right-of-way (Figure 4.5-4). The crossing at Beechwood Road currently does not have crossing protection flashers or gates. The view of the rail corridor from Beechwood Road is a long view of forest with track down the center. Beechwood Road is a rural, two-lane roadway surrounded primarily by forest at this viewpoint. The viewpoint was selected because of its location on a residential roadway and for the potential impacts of improving the grade crossing.

Stoughton Alternatives

This section describes typical (or representative) views of the Stoughton Line corridor from public streets. The Stoughton Alternatives (Electric and Diesel) would use the existing Stoughton Branch from Canton Junction to Weir Junction in Taunton. Portions of the Stoughton Line are currently inactive railroad rights-of-way. Evidence of a right-of-way is visible in some locations, primarily at cross-streets and where the right-of-way has been converted to driveways or paths. General elements of rail lines are not visible.

View of Right-of-Way from Route 138 (No. 20)

The Stoughton Line right-of-way was observed from Morton Street facing north, near the intersection with Route 138 in Stoughton (Figure 4.5-5). The right-of-way runs parallel to Route 138, which is characterized by low-density commercial retail and service establishments. A residential neighborhood exists on the west side of the right-of-way. The inactive rail right-of-way is visible in the street as it crosses Morton Street but is completely overgrown as it proceeds through the vegetated area between Route 138 and Morton Street. As this is currently an inactive right-of-way, there are no grade-crossing elements. The grade crossing is visible from Morton Street, immediately adjacent residences, and Route 138. The right-of-way is not visible. This viewpoint was selected because of the clearing on the right-of-way that would be required to accommodate the Stoughton Alternatives, grade crossing upgrades and potential views of the right-of-way from grade crossings.

Right-of-Way and Driveway from Fish and Game Club (No. 22)

The Stoughton Line right-of-way was observed from the driveway of the Stoughton Fish and Game Club on Route 138/Washington Street in Stoughton, facing east (Figure 4.5-6). The right-of-way runs parallel to Route 138, which is characterized by low-density commercial retail and service establishments. The Club is a private use, accessed from a short driveway off Route 138. The proposed right-of-way would cross this driveway. In its current condition, the right-of-way is vegetated and difficult to discern. This driveway is visible from the Fish and Game Club and from Route 138 at the driveway, due to the higher elevation of the roadway. This viewpoint was selected because of the clearing on the right-of-way that would be required to accommodate the Stoughton Alternatives and because the right-of-way crosses a driveway.

Easton Village Overpass at Main Street (No. 25)

The Main Street overpass in Easton was observed from a second angle, facing west along Main Street in Easton Village (Figure 4.5-7). This viewpoint shows a grade-separated rail crossing that is barely perceptible. Main Street passes over the rail right-of-way as a level roadway, with few features that indicate the presence of an overpass. On either side of Main Street, chain link fence marks the limits of

the overpass beyond the sidewalk. The right-of-way is overgrown, which also hinders its visibility from Main Street. Adjacent to the overpass, Main Street contains neighborhood commercial land uses, specifically small businesses in older buildings as well as a more recent gas station. This viewpoint was selected because the proposed project may require upgrades to the overpass and would require clearing of the right-of-way visible from the overpass.

Easton Village Right-of-Way under Main Street (No. 25)

The Stoughton Line right-of-way was observed from within the right-of-way south of the Main Street overpass in Easton Village (Figure 4.5-7). As it enters Easton Village, from the south, the Stoughton Line right-of-way is set below grade and would cross under Main Street and rise to the proposed Easton Village Station north of the town center. The right-of-way, which is somewhat overgrown, is flanked by a stone retaining wall on the west and a vegetated embankment on the east. At this location, surrounding uses include older residential homes to the east and the parking lot for a professional building to the west. The bridge is constructed of concrete, supporting a two-lane roadway. This viewpoint was selected because of the required overpass upgrades for operation of this alternative and potentially required right-of-way clearing.

Grade Crossing from Foundry Street (Nos. 27, 28)

The grade crossing of the Stoughton Line at Foundry Street in Easton was observed facing northeast and southwest (Figure 4.5-8). Both viewpoints show a right-of-way. This right-of-way is difficult to discern as a potential rail corridor, due to overgrown forest that extends to the edge of the road. Looking southeast, the right-of-way is beyond the Foundry Street crossing of the Black Brook Conservation Area. Looking northeast, the right-of-way is in the forefront of the photograph and marked by boulders on the south side of Foundry Street (left of photo). There are no indications of a grade crossing at this viewpoint. This viewpoint was selected because there is no visual evidence of an existing rail right-of-way or grade crossing; grade crossing upgrades and clearing would be required for the proposed project.

Right-of-Way from Bridge Street (No. 30)

The Stoughton Line right-of-way was observed from Bridge Street in Raynham, facing north (Figure 4.5-9). As the name indicates, Bridge Street passes over the right-of-way. From Bridge Street, the inactive rail right-of-way is clearly visible; it is flanked by power lines and beginning to become overgrown by the adjacent forest (a portion of the Hockomock Swamp ACEC). The center portion of the inactive rail right-of-way in the foreground is partially covered with ice and inundated. Snow and ice are accumulated along the right-of-way. This viewpoint was selected because of the views from Bridge Street and the clearing required for the right-of-way upgrades.

Right-of-Way at Carver Street (No. 31)

The Stoughton Line right-of-way and grade crossing at Carver Street was observed from the right-of-way south of Carver Street facing north (Figure 4.5-10). The right-of-way at this viewpoint is marked by log posts and rocks; it is in active use as a dirt roadway on either side of Carver Street. As this is an inactive right-of-way, there are no grade-crossing elements. This section of Carver Street is residential, but the right-of-way is primarily flanked by forest. This right-of-way is clearer of vegetation than other viewpoints along this segment of the Stoughton Line, although no tracks exist. This viewpoint was selected because the Stoughton Alternatives would introduce a grade crossing at this location.

Grade Crossing near Post Office on Route 138 (Nos. 32, 33, 34)

The proposed grade separation of the Stoughton Line at Washington Street/ Route 138 in Raynham was observed at three viewpoints (Figure 4.5-11). This proposed grade separation occurs adjacent to the intersection of the Stoughton Line with the Whittenton Branch. Route 138 is a high-traffic, two-lane commercial corridor. The development occurring near this viewpoint is low-scale commercial service and sales uses, typical of an older commercial corridor. Along the corridor, commercial properties are interspersed with forest. Generally, businesses in this stretch of Route 138 occupy one- or two-story older wooden buildings, with parking at the street edge. Beyond the commercial uses, there is a residential neighborhood east of Route 138 and forest to the west. These viewpoints were selected because of the proposed grade separation that would be required for the Route 138 crossing.

Viewpoints No. 33 and 34 were observed looking north and south on Route 138, respectively, where the Stoughton Line right-of-way crosses Route 138. As this is an inactive right-of-way, there are currently no grade-crossing elements and the right-of-way is difficult to discern. West of Route 138, in the north-facing photograph, the right-of-way is present north of the commercial plaza. East of Route 138, the right-of-way is not visible. Viewpoint No. 32 is of the intersection of the Stoughton Line with the Whittenton Branch, with Route 138 in the background.

Grade Crossing near King Philip Street, east of Route (No. 35)

This viewpoint of the grade crossing of the Stoughton Line was observed facing east on King Philip Street (east of Route 138) in Raynham (Figure 4.5-12). King Philip Street is a two-lane suburban roadway with no sidewalks or shoulder and a moderate curve at this viewpoint. The view along King Philip Street is forested and residential on both sides. As this is an inactive right-of-way, there are no grade-crossing elements. The right-of-way is difficult to discern; it is marked by log posts at either side of the road and can be found in the center of the photograph. The right-of-way itself has become a residential driveway on the north side of King Philip Street. This viewpoint was selected because the Stoughton Alternatives would introduce a grade crossing at this location.

Grade Crossing near East Britannia Street, Raynham (No. 35a)

This viewpoint of the grade crossing of the Stoughton Line was observed facing south crossing East Britannia Street in Raynham. The right-of-way portion in Pine Swamp is occupied by the overhead utility line in the foreground crossing East Britannia Street. The right-of-way then extends further south in a forested area vegetated area (Figure 4.5-13). East Britannia Street is a two-lane suburban roadway with no sidewalks or shoulder and relatively straight at this viewpoint. The view along East Britannia Street is forested on both sides. As this is an inactive right-of-way, there are no grade-crossing elements. The northern portion of the right-of-way is discernible from East Britannia Street looking north due to the clear cut vegetation maintenance for the overhead utility line, which cuts a visual corridor through Pine Swamp. The overhead utility line, however does not extend southward, across East Britannia Street. Unlike the northern portion of the right-of-way through Pine Swamp, the portion of the right-of-way extending south of East Britannia Street is not clear-cut and thus overgrown with mature trees. The right-of-way south of East Britannia Street is thus not easily discernible. This viewpoint was selected because the Stoughton Alternatives would introduce a grade crossing at this location.

Right-of-Way and Grade Crossing from Thrasher Street (Nos. 36, 37)

Two viewpoints of the Stoughton Line right-of-way and the grade crossing were taken from Thrasher Street in Taunton (Figure 4.5-14). Viewpoint 37 is south-facing, showing a wide, forested corridor sunken below surrounding grade flanking the right-of-way. The rolling nature and groundcover on the right-of-way in this location mask its former use as an operative railroad. The right-of-way is flanked by forest and, at Malcolm Circle in Taunton, by residences. The right-of-way north of Thrasher Street is less clear, as noted in the next viewpoint.

Viewpoint 36 is observed along Thrasher Street looking east towards the rail right-of-way. The view along Thrasher Street shows forest north of the roadway and residences to the south. To the south, the right-of-way is visible below street level, i.e., depressed relative to surrounding grade; Thrasher Street is a narrow, two-lane roadway with no shoulder or sidewalks and exhibits a sharp curve at this viewpoint. There are no guardrails. A row of boulders and wood and wire fencing, at the right of Viewpoint 36, act as barriers to access. There are currently no grade-crossing elements at this crossing, as it is not in active use. This viewpoint was selected because the Stoughton Alternatives would introduce a grade-separated crossing at this location, which is characterized by an already depressed right-of-way relative to surrounding grade.

Taunton River Bridges from Summer Street (No. 39)

Two rail bridges crossing the Taunton River are observed from this viewpoint taken from Summer Street/Route 140 looking north in Taunton (Figure 4.5-15). This viewpoint shows the forested corridor of the Stoughton Line heading north. The bridges are constructed of cement and wood. The bridges are constructed of wood on pilings. The water supply line shown on the two bridges is a recent addition to this viewpoint. This viewpoint was selected because the bridges would require upgrades.

Taunton River Bridge from Ingell Street (No. 40)

The New Bedford Main Line crosses the Taunton River just south of the intersection of the Attleboro Secondary and Stoughton Line in Taunton (Figure 4.5-16). This viewpoint is of the forested rail corridor and one of the bridges that cross the Taunton River. The bridge was viewed from the right-of-way southeast of the Taunton Department of Public Works yard on Ingell Street. This bridge is constructed of wood on pilings. The viewpoint was selected for its potential to be viewed by the public from the Taunton River and because the bridge may require upgrades as part of the Stoughton Alternatives.

Whittenton Alternatives

This section describes typical (or representative) views of the Whittenton Branch corridor from public streets. The Whittenton Alternatives, which would use the Whittenton Branch of the Stoughton Route, would avoid construction through the Pine Swamp by restoring service to the Whittenton Branch rail line. The Whittenton Alternatives diverge from the Stoughton Line at Raynham Junction and connect to the New Bedford Main Line at Whittenton Junction in Taunton. The entire Whittenton Branch is currently an inactive railroad right-of-way. Evidence of a right-of-way is visible in some locations, primarily at cross-streets and where the right-of-way has been converted to driveways or paths. General elements of rail lines are not visible.

Whittenton Right-of-Way and Bridge from King Philip Street, West of Route 138 (Nos. 42, 43)

These two viewpoints capture the location of the proposed Whittenton Branch of the Stoughton Line as it would cross over King Philip Street, west of Route 138 in Raynham, in both directions (Figure 4.5-17). The stone bridge abutments, built on either side of King Philip Street, are still present, but the actual bridge crossing the roadway is not present. King Philip Street is a narrow, two-lane suburban roadway without shoulders, flanked by single-family homes. The right-of-way embankment, visible from either side King Philip Street, is forested. This viewpoint was selected because grade crossing upgrades would be required as part of the Stoughton Alternative, Option 4C (now known as the Whittenton Alternative).

Whittenton Right-of-Way at Bay Street (Nos. 44, 45)

Two viewpoints of the Whittenton Branch right-of-way at Bay Street in Taunton were observed (Figure 4.5-18). Viewpoints of the right-of-way in both directions show that where the right-of-way intersects Bay Street, it ends in an embankment and the previous right-of-way under Bay Street has been filled. The right-of-way is heavily forested on either side of the roadway, although a cleared area hints at previous existence of a right-of-way. This viewpoint was selected because Bay Street would be replaced by a bridge.

Bay Street Bridge from Bay Street (No. 46)

A viewpoint facing southeast up Bay Street in Taunton shows the former Bay Street Bridge, a roadway passing over the Whittenton Branch right-of-way that was discussed above (Figure 4.5-18). This viewpoint was selected as the bridge would have to be reconstructed to accommodate a rail right-of-way. Located near downtown Taunton, Bay Street is a two-way roadway with shoulders, surrounded by a mix of uses, including detached residences south of the overpass and a restaurant and other commercial uses north of the overpass. The overpass has a guard rail and jersey barriers protecting a sidewalk from the embankment on the north side and no barrier or sidewalk on the south side.

Whittenton Right-of-Way and Grade Crossing from Warren Street (No. 49)

The right-of-way and grade crossing of the Whittenton Branch was observed from Warren Street in Taunton (Figure 4.5-19). Warren Street is a low-density residential neighborhood and the right-of-way is flanked by single-family homes. As this is an inactive right-of-way, there are currently no grade-crossing elements or tracks. However, the right-of-way is quite visible as a wide, gravel and dirt roadway. Automobile access is possible on the right-of-way, but restricted with swinging metal gates. West of Warren Street, jersey barriers also restrict access and the right-of-way is marked private property. This viewpoint was selected because there is currently no evidence of an operative right-of-way.

Stations

This section discusses the views and aesthetic resources of the proposed station sites, which are shown in Figures 4.5-20 through 4.5-29. All the viewpoints described below were selected because they are possible station sites.

Southern Triangle Station Sites—Common to All Rail Alternatives

The Southern Triangle includes two rail alignments south of Weir Junction. The six stations are common to all Build Alternatives. This section discusses the views and aesthetic resources of the proposed station sites for the Southern Triangle station sites.

Taunton Depot Station (No. 41)—The proposed Taunton Depot (formerly known as East Taunton [North]) Station site is behind the Target Plaza off of Route 140 in Taunton (Figure 4.5-20). The site is currently undeveloped, with half the site cleared and half the site forested. Six large floor-plan retail buildings, on the adjacent shopping plaza, contain numerous retail establishments and are generally in good condition. This proposed station site is not visible from Route 140 due to its location at the rear of an established shopping plaza and is not visible from other sides due to the forest cover.

King’s Highway Station (No. 6)—The proposed King’s Highway Station site is in a commercially developed area containing traditional strip retail development close to Route 140 in New Bedford (Figure 4.5-21). The site, in the rear of King’s Highway Plaza, is highly visible from the intersection of King’s Highway and Tarkiln Hill Road. King’s Highway Plaza contains occupied buildings and a parking lot. The site contains one large floor-plate, strip-style retail building with approximately eleven establishments, one stand-alone fast-food restaurant building, and associated parking. The establishments are traditional single-story retail establishments in a variety of sizes and ages.

Whale’s Tooth Station (No. 7)—The proposed Whale’s Tooth Station site is adjacent to Route 18 and accessed from Acushnet Avenue in New Bedford (Figure 4.5-22). It is currently a parking lot, recently completed by the City of New Bedford in anticipation of the proposed project. The only structure on the site is a parking attendant booth. The station site is largely devoid of vegetation and can be viewed from Route 18, adjacent uses, and the higher elevation residences east of Route 18.

Freetown Station (No. 10)—The proposed Freetown Station site is off South Main Street in Freetown (Figure 4.5-23). The site is currently developed as a self-storage facility with associated parking; it is surrounded by open land and forest. The site contains four large storage buildings in fair condition. The station site can be viewed from South Main Street and the adjacent individual residences.

Fall River Depot Station (Nos. 11, 12)—The proposed Fall River Depot Station site is on Davol Street, which runs parallel to Route 138/Route 70 in Fall River (Figure 4.5-24). The station is currently developed as a commercial property with parking. Two buildings and steel framing for an apparent third building exist on the site; all are vacant. One building, a large metal building with five garage bays, was formerly used as a flooring supply warehouse and is in poor/fair condition. The second building, a brick structure, was used for office and storage uses and is in poor/fair condition. All the windows of the brick building have been filled in with concrete blocks or wood. The site is characterized by some vegetation due to inactivity at the site. This site is viewed from Davol Street, Pearce Street, and from the rear of properties across the tracks.

Battleship Cove Station (No. 13)—The proposed Battleship Cove Station site is on Water Street/Ponta Delgada Boulevard in Fall River (Figure 4.5-25). The site contains the Ponta Delgada Plaza, Gates of the City Monument, a circular driveway, and a grassed area. The station would be at the rear of the site, in a currently vegetated area that abuts Route 138/Broadway Extension to the southwest. The station site is visible from Route 138/Broadway Extension and from Eagle Street to the southeast, both of which are at a higher elevation. The site is also visible from the industrial uses along the waterfront and the high-density residential uses southwest of Route 138.

Stoughton and Whittenton Alternatives Station Sites

In addition to the Southern Triangle, the Stoughton Alternatives and the Whittenton Alternatives would provide commuter rail service from South Station through Stoughton to Canton Junction and Weir

Junction. This section discusses the views and aesthetics resources of proposed station sites for the Stoughton and Whittenton Alternatives outside of the Southern Triangle.

Stoughton Station—The relocated Stoughton Station would be a new train station constructed along the Stoughton Line, west of the existing railroad tracks and north of Brock Street. The site is a previously developed area consisting of commercial/industrial businesses, parking areas, and some undeveloped wooded land. It is adjacent to commercial/industrial businesses and residences along Morton Street, residences along Brock Street, and commercial businesses and parking lots on the east side of the railroad tracks. The site is visible from Brock Street immediately west of the grade crossing, and from the rear of the abutting businesses and residences.

North Easton Station Site (No. 23)—The proposed North Easton Station is off Route 138 in Easton, behind the Roche Brothers Shopping Plaza (Figure 4.5-26). The station site is undeveloped and entirely vegetated, but has evidence of earthwork, most likely as a result of the construction of the shopping plaza. In addition to the shopping plaza to the east, the site is adjacent to forested land to the west (where the rail right-of-way would pass) and south. The shopping plaza contains six buildings in excellent condition as all are relatively new. A medical office building adjacent to the proposed station site is the newest building.⁵ This site is not visible from Route 138 due to its location at the rear of an established shopping plaza and is not visible from other sides due to the forest cover. The site is visible from the medical office building.

Easton Village Station (Site No. 24)—The proposed Easton Village Station site is off Sullivan Avenue just north of the Easton Town Center (Figure 4.5-27). The station site is adjacent to a historic train station, designed by Henry Hobson Richardson, and a small parking area. The historic train station is in good condition and is the home of the Easton Historical Society. Located in a dense town center, the site is visible only from the roads and parcels surrounding it, which include Shovel Shop Pond, the YMCA and a converted mill building as well as the historic station.

Raynham Park Station Site (No. 29)—The proposed Raynham Park Station site is at the site of the former Raynham-Taunton Greyhound Track, off Route 138 in Raynham (Figure 4.5-28). The station site itself is within a larger, developed site that currently includes a simulcast/off-track betting facility and a parking area. The station site is not visible from the main road because it is accessed via a driveway from the larger Raynham Park recreational site.

Dana Street Station Site—The proposed Dana Street Station site is located just south of the Danforth Street grade crossing, within walking distance of downtown Taunton. This station would only serve the Whittenton Alternatives. The station would be on the east side of the railroad, between the alignment and Dana Street. The approximately 3.53-acre site is a currently vacant lot that appears to have been occupied by an industrial use. The area surrounding the site is densely developed with land uses including commercial, industrial, and residential properties. The station site is visible from Danforth Road to the west due to the absence of vegetation along the site's perimeter. The residential developments west of Danforth Road do not have direct or unobstructed views into the site due to vegetation screening and the orientation of the residential development. The station site is partially visible from Dana Street to the north. The parcels north of Dana Street opposite the station site have a partial view into the site. However this area is vacant. No public views are available into the Dana Street station site from the south, as this area is occupied by an existing rail line. Public views into the Dana

⁵ The building is not shown on the 2005 MassGIS orthophoto in Figure 4.5-26 since it was constructed after 2005.

Street from the east are not available as the parcel south of the station site is occupied by auto-related industrial land uses.

Taunton Station (Dean Street) Site (No. 38)—The proposed Taunton (Dean Street) Station site, which would only serve the Stoughton Alternatives, is off Arlington Street in Taunton (Figure 4.5-29). The site is a formerly developed parcel now containing vacant buildings and other derelict areas as a result of fire. The site is in a developed area, and is visible from the intersection of Dean and Arlington Streets (south), from the frontage at Arlington Street and the residences lining that street (west), and from the town playing fields on Longmeadow Avenue east of the site, across the rail right-of-way.

Layover Facilities

This section discusses the views and aesthetic resources of the two identified layover facility sites – the Wamsutta site along the New Bedford Main Line and Weaver’s Cove East site along the Fall River Secondary. Layover facility plans are conceptual at this point, consisting only of general layouts and footprints. Tracks at the train layover facilities would diverge from the respective through lines (Fall River Secondary, or New Bedford Main Line) and consist of a series of short parallel spurs upon which trains would be parked for overnight layovers and light maintenance work. Parking areas for employees would be included within the facilities, and hooded lights would minimize light pollution. Small site structures are planned for storage and personnel change rooms. The facilities would be fenced and lighted for security. Engineering plans will be completed for these facilities once the LEDPA has been determined.

Wamsutta Layover Facility Site

The proposed Wamsutta layover facility would be constructed along the New Bedford Main Line and would serve all Build Alternatives. It would be located in New Bedford near the intersection of Wamsutta Street and Herman Melville Boulevard, near the southern terminus of the New Bedford Main Line, just north of the Whale’s Tooth Station.

The Wamsutta site is a previously developed site, currently used as a rail yard for CSX, within an industrial area. The site is visible from adjacent roads and buildings. Adjoining properties are transportation corridors or industrial in nature. Industrial sites are located north, east, and south of this location, and Route 18 to the west. No commercial or residential properties, or open spaces, are located in close proximity to this site.

Weaver’s Cove East Layover Facility Site

The proposed Weaver’s Cove East layover facility would be constructed along the Fall River Secondary and would serve all Build Alternatives. It would be located in Fall River west of Main Street between the existing Fall River Secondary and Main Street, approximately 2.5 miles from the southern terminus of the Fall River Secondary.

Currently vacant land, a portion of the Weaver’s Cove East site was previously developed. Approximately one-half of the site is cleared of vegetation or includes remnant building foundations; the remainder of the site is vegetated. Surrounding land to the north, east, and south is residential; industrial land use is present to the southwest. Undeveloped land is immediately west of the site, adjoining the Taunton River. The industrial site to the southwest is a former Shell Oil facility, and consists of completely cleared land with several large aboveground storage tanks and a short shipping

dock. The layover facility site is partially visible from the adjacent properties, somewhat obscured from view by vegetation. The layover facility would be visible from the Taunton River. As discussed below, this segment of the Taunton River has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline.

4.5.3 Analysis of Impacts

4.5.3.1 Introduction

For the purposes of this assessment, “visual and aesthetic resources” refers to the visible natural and built environment surrounding the various components of the alternatives, and this analysis examines changes in the physical appearance of that environment from a ground-level viewer’s perspective. The following assessment identifies any changes in the visual setting that could have adverse impacts on the visual and scenic resources of importance to residents. The visual impacts are based upon examples or conceptual views of the major components of each of the alternatives as compared to the existing character of the surrounding environment. Visual impacts to historic resources are analyzed separately in Chapter 4.8, *Cultural Resources*.

4.5.3.2 Methodology

This section summarizes the methodology used to evaluate the potential direct and indirect effects of the South Coast Rail project to visual and aesthetic resources.

As required by the CEQ under NEPA,⁶ the analysis of the environmental consequences includes discussion of the direct and indirect effects of a proposed action and their significance. Direct effects are defined as those “which are caused by the action and occur at the same time and place.”⁷ Indirect effects are defined as those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”⁸

Similarly, MEPA requires “a detailed description and assessment of the negative and positive potential environmental impacts of the Project and its alternatives. The Environmental Impact Report (EIR) shall assess (in quantitative terms, to the maximum extent practicable) the direct and indirect potential environmental impacts from the Project that are within the Scope. The assessment shall include both short-term and long-term impacts for all phases of the Project (e.g., acquisition, development, and operation) and cumulative impacts of the Project, any other Projects, and other work or activity in the immediate surroundings and region.”⁹

The following paragraphs describe how potential direct and indirect effects of the South Coast Rail alternatives to visual and aesthetic resources were evaluated.

⁶ EPA. 2009. Code of Federal Regulations (CFR), *Title 40: Protection of the Environment, Part 1502- Environmental Impact Statement, Section 1502.16 Environmental Consequences* (40 CFR 1502.16).

⁷ 40 CFR 1508.8(a).

⁸ 40 CFR 1508.8(b).

⁹ Massachusetts Environmental Policy Act Office. 2009. 301 CMR 11.00: *MEPA Regulations. Section 11.07: EIR Preparation and Filing, (6) Form and Content of EIR, (h) Assessment of Impacts*. Commonwealth of Massachusetts, Environmental Policy Act Office: Boston.

Direct Effects

Potential direct effects to visual and aesthetic resources were evaluated by examining preliminary engineering plans to identify new construction or significant reconstruction of existing facilities that may change the visual environment. Specifically, the following items were evaluated:

- Railroad improvements (upgrades to existing railroad track);
- Railroad construction (new track in active, abandoned, or previously unused railroad corridors);
- Railroad crossings (at-grade and grade separated crossings);
- Station reconstruction or construction (existing or new rail and/or bus stations);
- Layover facility construction (new spur tracks for overnight train storage); and
- For electric-powered alternatives, electrical infrastructure construction or upgrades (overhead catenary system and traction power facilities).

Preliminary engineering plans, conceptual views, and existing examples of similar facilities were reviewed and compared to current conditions to identify substantial changes in the visual environment. The existing visual environment is documented above in Section 4.5.2.

Visual impacts were qualitatively assessed based on a combination of the visibility of the specific component being evaluated and the context of the existing visual environment in which the component would be located.

The following ranking system was used:

- None: No visual impact would result because the evaluated component would not be visible to the general public and/or would not be different in character than the existing visual environment.
- Minimal: Visual impacts would be minor because the evaluated component would be only incidentally visible to the general public and/or would be a minor change from the existing visual environment.
- Moderate: Visual impacts would be modest because the evaluated component would be partially visible to the general public and/or would be a moderate change from the existing visual environment.
- Substantial: Visual impacts would be noteworthy because the evaluated component would be visible to the general public and/or would be a considerable change from the existing visual environment.

Changes in the visual and aesthetic environment may also affect the context in which cultural resources are viewed. This issue is specifically addressed in Chapter 4.8, *Cultural Resources*.

Indirect Effects

Indirect effects to visual and aesthetic resources may result from induced growth such as TOD in the vicinity of the train or bus stations. These indirect effects are addressed in a separate analysis described in Chapter 5, *Summary of Indirect Effects and Cumulative Impacts*.

4.5.3.3 Impacts of Alternatives by Element

No-Build (Enhanced Bus) Alternative

The No-Build Alternative would improve transit service to Boston from New Bedford, Fall River, and Taunton by adding more buses but using smaller capital investments than are proposed in the Build Alternatives. Under this alternative, no new rail or bus service would be provided to Southeastern Massachusetts.

The No-Build Alternative plan includes bus schedule enhancements, transportation demand management, and transportation policy enhancements for commuter bus. In addition to these enhancements, financial incentives would be offered by the Commonwealth to encourage the private commuter bus service operators to acquire a new fleet of fuel efficient and clean emission buses. The intent of these measures would be for these buses to provide rider comfort and amenities comparable to commuter rail service.

The existing highway alignments present a visually disturbed environment from natural conditions. The alignments would not change and no new highway construction would be required for the No-Build Alternative. Using these highways for this alternative would not affect any visual or aesthetic resources.

Park-and-Ride Lot Expansion/Bus Stations

Three existing Park-and-Ride facilities would be expanded or re-striped to improved capacity and traffic flow as part of the No-Build Alternative, as summarized below. The three affected Park-and-Ride facilities are:

- The West Bridgewater Park-and-Ride, located near the southwest corner of the intersection of Routes 106 and 24 in West Bridgewater;
- The Mount Pleasant Street Park-and-Ride, located on the northwest corner of the intersection of King's Highway and Route 140 in New Bedford; and
- The Silver City Galleria Park-and-Ride, adjacent to the Silver City Galleria shopping mall in Taunton.

The Mt. Pleasant Street park-and-ride lot in New Bedford operates at approximately 80 percent of capacity. If future ridership projections for the area indicate a significant increase in ridership for this region, an expanded park-and-ride/bus station may have merit in the existing lot, on adjacent land, or at another suitable location in the general area.

A review of available information and parking occupancy studies indicates that a bus station/park-and-ride facility in the West Bridgewater area, near the existing Route 106/Route 24 park-and-ride lot, would be readily utilized. A bus station and park-and-ride could be combined into one potential intermodal station near the existing park-and-ride lot. The existing park-and-ride lot at Route 106 in West

Bridgewater operates at capacity, as does the existing park-and-ride lot at Route 104 in Bridgewater. These two lots also do not allow buses to enter or exit the lots to pick up or drop off commuters. Although plans are underway to provide 40 more spaces at the West Bridgewater park-and-ride, a new park-and-ride/bus station could provide full bus access /egress and larger park-and-ride facilities. This might capture additional riders for all three commuter bus services that travel by this location via Route 24.

As the existing Silver City Galleria Park-and-Ride is at capacity, existing paved parking lots nearby that appear vacant may be used for a potential new expanded park-and-ride/bus station, or other sites could be identified in the immediate area around the Silver City Galleria and the Route 24/Route 140 highway interchange. A new facility at or near the mall could easily integrate local fixed route GATRA bus service which already serves the mall throughout the day. This linkage to local fixed route bus service could also encourage ridership on commuter bus.

Additional signage may be installed at the park-and-ride/bus facilities to direct motorists to parking areas. The impacts to the visual environment from streetscape changes as a result of potential park-and-ride lots/bus station expansions would be an incremental addition to the existing conditions.

Southern Triangle

Portions of the rail lines within the southern part of the South Coast Rail study area are common to all Build Alternatives. These rail lines form a rough triangular shape running south from Myricks Junction to Fall River (the Fall River Secondary) and from Weir Junction through Myricks Junction to New Bedford (the New Bedford Main Line), and are therefore referred to as the Southern Triangle (Figure 1.4-1). The following sections describe the environmental consequences to visual and aesthetic resources that may result from new construction for these two components of the South Coast Rail project. The northern part of the South Coast Rail study area is described in subsequent sections for each alternative.

Visual and Aesthetic Impacts along the Fall River Secondary Rail Segment

The 12.3 miles of existing freight track along the Fall River Secondary would be upgraded and maintained to Federal Rail Administration (FRA) Class 7 options¹⁰ for the South Coast Rail project. The line would be double-track from Weir Junction to Myricks Junction, with a 0.9-mile third track for freight movements near Taunton Depot Station. A short segment of the line would be double-track south of Myricks Junction, 0.8 mile. The remainder of the line would be single-track, with the exception of 1.8-mile double-track section in Freetown and a 1.7-mile section in New Bedford. The public at-grade road/railroad crossings that would remain open would be reconfigured and/or improved to meet current safety standards. Grade crossings would be closed or consolidated whenever feasible. The existing freight service using the Fall River Secondary is diesel-powered; no electrical infrastructure is present. New catenary supports and wires would need to be constructed along the length of the line, and two new traction power facilities would need to be constructed for the electric alternatives. Potential direct impacts to visual and aesthetic resources resulting from constructing the upgraded rail lines and electrical infrastructure are described below.

Two new stations would be constructed in Fall River (Battleship Cove and Fall River Depot) and one new station would be constructed in Freetown (Freetown). One new layover facility would be constructed in Fall River at the Weaver's Cove East site. Potential direct impacts to visual and aesthetic resources

¹⁰ FRA. 2009. 49 CFR 213.9 Classes of Track: Operating Speed Limits. US Department of Transportation, Federal Rail Administration.

resulting from constructing the new stations and layover facility along the Fall River Secondary are considered in the Stations and Layover sections, respectively.

Beginning at Myricks Junction, the Fall River Secondary (as shown in Figure 1.4-1) passes through low density residential development, undeveloped land, and open space in Berkley, Lakeville, and Freetown. Passengers' views from the trains would be principally of residences, forest (including the Freetown-Fall River State Forest), and occasional ponds or rivers through most of this segment. Some industrial and commercial developments would also be visible, and the railroad crosses or parallels major highways such as Routes 24 and 79. Approaching Fall River, the alignment runs along the east bank of the Taunton River, with expansive views to the west.

Segments of the Taunton River were recently designated¹¹ as "scenic" or "recreational" river areas under the Wild and Scenic Rivers Act,¹² the segment along this portion of the Fall River Secondary is designated as a "recreational river area," which is defined by the Act as a segment with a partially developed shoreline and ready access.¹³ Within Fall River, land development intensifies, with dense residential development, industrial properties, and commercial districts adjacent to and visible from the railroad. Near the end of the line, the railroad passes historic sites such as the Fall River Heritage State Park, with views of the World War II battleship U.S.S. Massachusetts. The final stop of the passenger rail service would be the Battleship Cove Station, at the Ponta Delgada monument. This location commemorates the City of Fall River's sister city, Ponta Delgada, through a recreation of the City Gates of Ponta Delgada in Sao Miguel, Azores.

Components of the Fall River Secondary improvements that would potentially change the visual and aesthetic environment are:

- Railroad upgrades, including track, railroad bed, bridges, and culverts;
- At-grade crossing improvements, including modern lights, automatic gates, curbs, and painted signage for traffic control; and
- Electrical infrastructure construction (electric alternatives only), including overhead catenary system and traction power facilities.

Railroad upgrades are not expected to substantially affect the visual environment along the Fall River Secondary for passengers, occupants of adjoining properties, or passers-by. The functionally upgraded track, railroad bed, bridges, and culverts would appear similar to the existing visual environment. The railroad upgrades within this portion of the Fall River Secondary within 0.25 mile of the Taunton River will not degrade the existing visual character of the partially developed shoreline along this "recreational river area" and no railroad bridges cross the river in this segment. For safety considerations, the right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a minor visual impact by the addition of a chain-link fence to these environments.

¹¹ *Omnibus Public Lands Management Act of 2009*.

¹² *Wild & Scenic Rivers Act*. (16 USC 1271-1287); Public Law 90-542. 1968.

¹³ No segment of the Taunton River was designated as "wild" (free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and unpolluted) and no segments adjacent to the Fall River Secondary are designated as "scenic" (free of impoundments, with shorelines and watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads).

Improving or reconfiguring the at-grade crossings would affect the appearance of these areas. All existing grade crossings to remain and all reactivated crossings would be equipped with new, state-of-the-art Automatic Highway Crossing Warning (AHCW) systems. Each crossing would be supported by a minimum 8-foot by 8-foot aluminum shed that would house the AHCW system. The houses would be placed at the most advantageous quadrant of the crossing to not impede sight distance of pedestrians, motorists, and train engineers. Existing lights and gates would be replaced with new structures to improve safety; the new structures would be intentionally more visible than the existing lights and gates, for greater contrast with the existing visual environment. Ground level traffic controls (curbs and painted signage) are not expected to substantially alter the existing visual environment. The at-grade crossings would be visible principally to automobile drivers and passengers, as well as occupants of adjacent properties. The crossings would be only incidentally visible to train passengers. A photograph of a modern at-grade crossing on another railroad line is provided in Figure 4.5-30.

Constructing the electrical infrastructure necessary to support the electric alternatives would affect the visual environment along portions of the Fall River Secondary by introducing new metal structures and wires into a rural setting. The overhead catenary system would include catenary supports at regular intervals, and electrical wires along the length of the line. The overhead catenary system would be visible to occupants of adjacent properties and automobile drivers and passengers at crossing or paralleling locations. In segments where the visual environment is particularly sensitive, the catenary supports may be designed to a lower profile appearance to minimize effects on surrounding visual environment. Photographs of typical overhead catenary systems on another railroad are provided in Figure 4.5-31.

Two new traction power facilities, paralleling stations, would be constructed in Fall River to deliver electric power from the regional transmission lines to the overhead catenary system. Paralleling stations contain less equipment than the main substation and switching stations and require a 40-foot by 80-foot site. One paralleling station (PS-5) would be adjacent to the Fall River Depot Station, and would be visible to passengers, other users of the station, occupants of adjacent properties, and potentially to passers-by on Route 138. Figure 4.5-33 shows the proposed traction power system and Figure 4.5-32 provides photographs of existing similar-appearing traction power facilities along another railroad line. The second paralleling station (PS-4) would be located in Freetown. Although it would be visible to passengers, other users of the stations and potentially from adjacent uses, it would not be expected to substantially alter the visual environment.

Visual and Aesthetic Impacts along the New Bedford Main Line Rail Segment

The 19.4-mile existing freight tuck along the New Bedford Main Line would be upgraded to FRA Class 7 options for the South Coast Rail project. The line would be double-track from Weir Junction to Myricks Junction, with a 0.9-mile third track for freight movements near Taunton Depot Station. A short segment of the line would be double-track south of Myricks Junction, 0.8 mile. The remainder of the line would be single-track, with the exception of 1.8-mile double-track section in Freetown and a 1.7-mile section in New Bedford. The existing public at-grade road/railroad crossings that would remain open would be reconfigured and/or improved to meet current safety standards. Grade crossings would be closed or consolidated whenever feasible. The existing freight service using the New Bedford Main Line is diesel-powered; no electrical infrastructure is present. New catenary supports and wires would need to be constructed along the length of the line, and four traction power facilities would be constructed for the electric alternatives. Potential direct impacts to visual and aesthetic resources resulting from constructing the upgraded rail lines and electrical infrastructure are described below.

Two new train stations would be constructed in New Bedford (Whale’s Tooth and King’s Highway) and one new train station would be constructed in Taunton (Taunton Depot). One new layover facility would be constructed in New Bedford at the Wamsutta site. Potential direct impacts to visual and aesthetic resources resulting from the constructing and using the new stations and layover facilities along the New Bedford Main Line are considered in the sections on Stations and Layovers, respectively.

Beginning at Weir Junction, the New Bedford Main Line (as shown in Figure 1.4-1) crosses the Taunton River and passes through undeveloped land, open space, and low density residential development, in Taunton, Berkley, Lakeville, and Freetown. Passengers’ views from the trains would be principally of forest (including the Assonet Cedar Swamp), occasional ponds or rivers (including a “recreational river area” segment of the Taunton River), and residences through most of this segment. Industrial development begins in southern Freetown and increases in density in New Bedford; the industrial sites would be visible, as would the Acushnet Cedar Swamp open space in northern New Bedford. The railroad crosses Route 140 as it enters the densely developed part of New Bedford; views from the train would include industrial and residential development in this segment. Historic downtown New Bedford, near the New Bedford Whaling National Historic Park, would be visible to passengers. After crossing Route 18, the final stop of the passenger rail service would be the Whale’s Tooth Station in a commercial/industrial area.

Components of the New Bedford Main Line improvements that would potentially change the visual and aesthetic environment are:

- Railroad upgrades, including track, railroad bed, bridges, and culverts;
- At-grade crossing improvements, including modern lights, automatic gates, curbs, and painted signage for traffic control; and
- Electrical infrastructure construction (electric alternatives only), including overhead catenary system and traction power facilities.

Railroad upgrades are not expected to substantially affect the visual environment along the New Bedford Main Line for passengers, occupants of adjoining properties, or passers-by. The upgraded track, railroad bed, bridges (with one exception), and culverts would appear similar to the existing visual environment. For safety considerations, the right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a minor visual impact by the addition of a chain-link fence to these environments.

As noted above, segments of the Taunton River were recently designated as “scenic” or “recreational” river areas. The New Bedford Main Line crosses the Taunton River in Taunton, immediately south of Weir Junction. This segment of the river is designated as a “recreational river area.” The existing single track bridge at this location was constructed in 1906 and partially rebuilt in 1942.¹⁴ It is approximately 130 feet long, consists of four spans of varying lengths, was constructed as a combination of open deck beams and thru-girders, and is supported by three sets of steel H-pile piers and concrete and stone masonry abutments. This bridge is in poor condition, and is structurally inadequate to support the proposed train loads (or number of tracks) required for the South Coast Rail project.

¹⁴ Vanasse Hangen, Brustlin, Inc. (VHB) 1995. Undergrade Bridge Inspection and Rating Report, MBTA New Bedford/Fall River Commuter Rail Project. Vanasse Hangen Brustlin, Inc.: Boston.

The proposed replacement structure is envisioned to be a two-span, two-bay, ballasted steel plate thru girder superstructure carrying two sets of tracks. There would be three total girders, with two exterior and one common interior girder. New cast-in-place concrete abutments would be constructed behind the existing abutments, increasing the span length. The existing abutments would be partially removed to an elevation equal to the river's average seasonal high water elevation. The space between the existing and proposed abutments would be graded to reconnect the stream banks on either side of the bridge. The existing piles would be removed to one foot below grade. This design would enable riverbank and wildlife passage to be restored in front of the new abutments. The proposed bridge configuration would reduce the number of piers within the waterway, providing a cleaner, more consistent appearance, and the ballasted superstructure would help to suppress vibration noise during train crossings.

The proposed bridge would permanently alter the visual environment of the recreational river area, but the visual character of this partially developed shoreline would not be adversely affected. The bridge construction activities, potentially including cofferdams, would temporarily adversely impact the visual character of the river in this segment.

Improving or reconfiguring the at-grade crossings would affect the appearance of these areas. All existing grade crossings to remain and all reactivated crossings would be equipped with new, state-of-the-art AHCW systems. Each crossing would be supported by a minimum 8-foot by 8-foot aluminum shed that would house the AHCW system. The houses would be placed at the most advantageous quadrant of the crossing to not impede sight distance of pedestrians, motorists, and train engineers. Existing lights and gates would be replaced with new structures to improve safety; the new structures would be intentionally more visible than the existing lights and gates, for greater contrast with the existing visual environment. Ground level traffic controls (curbs and painted signage) are not expected to substantially alter the existing visual environment. A more visible change would be implemented at the Tarkiln Hill Road crossing in New Bedford. Tarkiln Hill Road would be closed on the west side of the tracks, and traffic routed to King's Highway, which intersects the current alignment of Tarkiln Hill Road at the crossing location (Figure 4.5-34). East of the crossing, the existing Tarkiln Hill Road alignment would remain, but with modern at-grade crossing improvements. The at-grade crossings would be visible principally to automobile drivers and passengers, as well as occupants of adjacent properties. The crossings would be incidentally visible to train passengers. A photograph of a modern at-grade crossing on another railroad line is provided in Figure 4.5-30.

Constructing the electrical infrastructure necessary to support the electric alternatives would affect the visual environment along portions of the New Bedford Main Line by introducing new metal structures and wires into a rural setting. The overhead catenary system would include catenary supports at regular intervals, and electrical wires along the length of the line. The overhead catenary system would be visible to occupants of adjacent properties and automobile drivers and passengers at crossing or paralleling locations. In segments where the visual environment is particularly sensitive, the catenary supports may be designed to a lower profile appearance to minimize impacts to surrounding visual environment. Photographs of typical overhead catenary systems on another railroad are provided in Figure 4.5-31.

Four new traction power facilities would be constructed along the New Bedford Main Line to deliver electric power from the regional transmission lines to the overhead catenary system. Figure 3-33 shows the proposed locations of the traction power facilities and Figure 3-32 provides photographs of existing similar traction power facilities along another railroad line. One traction power substation (TPSS-2)

would be located in New Bedford. Traction power substations (or main substations) draw power from the utility power grid. A typical main substation site is 150 feet by 200 feet. Two new paralleling stations, each which require a 40-foot by 80-foot site, would be constructed along the New Bedford Main Line; one each in New Bedford (PS-6) and Freetown (PS-3). Switching stations are required where two sections of the traction power system powered from different main substations meet; switching station sites can be as large as 60 feet by 150 feet. One switching station (SWS-2) would be located in Berkley where the Fall River Secondary joins the New Bedford Main Line. The paralleling and switching stations would be visible from nearby vantage points, but are not expected to substantially affect the visual environment. The traction power substation would adversely impact the visual environment from adjacent locations.

Stoughton Electric Alternative

The Stoughton Electric Alternative north of the Southern Triangle would be comprised of a portion of the Northeast Corridor and the entire Stoughton Line. This alternative would use 15.5 miles of the existing Northeast Corridor track infrastructure between from South Station to Canton Junction. From Canton Junction, the existing, active Stoughton Line would be used to Stoughton Station. Commuter rail service would be extended along the Stoughton Line using an out-of-service railroad bed, south through Raynham Junction to Weir Junction in Taunton, at which point this alignment joins the New Bedford Main Line.

The Stoughton Electric Alternative does not include any construction along the Northeast Corridor. The existing single track Stoughton Line would be upgraded to FRA Class 7 for the Stoughton Electric Alternative. A new second track would be constructed from Canton Junction to the existing Stoughton Station, a distance of 3.8 miles, where existing passenger service ends. A new double track would extend south of Stoughton Station to the proposed North Easton Station. The remainder of the line south to Weir Junction would be single-track, with a 2.2-mile long double-track section in Raynham, and a 0.6 mile long double-track section in Taunton. Approaching Weir Junction, an additional 0.4 mile siding track would be provided for freight use only. All of the existing at-grade road/railroad crossings would be reconfigured and/or improved to meet current safety standards. Grade crossings would be closed or consolidated whenever feasible. New catenary supports and wires would be constructed along the length of the line, and four new traction power facilities would be constructed. Potential direct impacts to visual and aesthetic resources resulting from constructing the upgraded rail lines and electrical infrastructure are described below.

This evaluation focuses on the existing and extended Stoughton Line segment from Canton Junction to Weir Junction. The shared Southern Triangle segment of the Build Alternatives was addressed in the preceding section, and no construction is proposed for the Northeast Corridor portion of the alignment.

One existing train station (Canton Center) along the active portion of the Stoughton Line would be reconstructed. Five new train stations (Stoughton, North Easton, Easton Village, Raynham Park, and Taunton) would be constructed. No new layover facilities would be constructed along this segment. Potential direct impacts to visual and aesthetic resources from reconstructing the existing and developing the new stations along the Stoughton Line are considered in the Stations section.

Beginning at Canton Junction, the active portion of the Stoughton Line passes through high density commercial, industrial, and residential development in Canton and Stoughton. The active portion of the Stoughton Line, beginning at just south of the Stoughton Station, passes through a mixture of moderate density commercial, industrial, and residential development. The visual environment from Canton

Junction to the southern portion of the town of Stoughton would be variable from the riders' perspective, including all of these components. The visual environment in the southern portion of Stoughton is marked by the Stoughton Memorial Conservation Land on the west side of the alignment. This area is predominantly forested open space but with interspersed low density residential and commercial development. Views to the east in this segment would be similar in character but dominated by the Route 138 highway and commercial development paralleling the railroad.

Entering Easton, the alignment passes through additional open space and is adjacent to low- to moderate-density rural development, with development density increasing in downtown Easton and adding commercial and industrial elements. In Easton Village, the railroad passes through or near the H. H. Richardson Historic District and the North Easton Historic District. The existing train station in Easton is a national historic landmark (the new Easton Village Station would be located immediately south of this site). The visual environment transitions back to low and moderate density development as the railroad alignment continues south. Views from the train would include forested open space, residential development, and recreational sites (golf courses) in this segment. The railroad enters the Hockomock Swamp ACEC and Wildlife Management Area in the southern portion of Easton, with only open space land use after crossing an electrical transmission line corridor. Views from the train in this segment would be exclusively of forested land until the alignment enters Raynham and passes the Raynham Park former greyhound dog racing track and some industrial development. Views from the train in this segment would include both open space and this recreational/industrial property. The Stoughton Line crosses I-495, passing through or near a commercial business district as it crosses Route 138. The visual environment then changes as it briefly passes through moderate density residential development before entering the Pine Swamp open space just north of Taunton. The visual environment in Taunton is a mixture of residential, commercial, and industrial development with some open space. Passengers on the Stoughton Line would view the Taunton River three times before the railroad joins the New Bedford Main Line at Weir Junction (described above). The Taunton River crossings are within a segment of the river designated as a "recreational river area" within the National Wild and Scenic Rivers System through the National Park Service.

Components of the Stoughton Line improvements and construction for the Stoughton Electric Alternative that would potentially change the visual and aesthetic environment are:

- Railroad upgrades and construction, including track, railroad bed, bridges, and culverts;
- Trestle construction, consisting of a low-rise bridge about the existing railroad bed;
- At-grade grade crossing improvements and construction, including modern lights, gates, curbs, and painted signage for traffic control;
- Grade-separated crossing construction, consisting of a road bridge over the railroad;
- Frontage road construction, consisting of a short segment of paved road along a portion of the line in Stoughton; and
- Electrical infrastructure construction, including overhead catenary system and traction power facilities.

Railroad upgrades would minimally affect the visual environment along the existing, active Stoughton Line for passengers, occupants of adjoining properties, or passers-by. The upgraded track, railroad bed,

bridges, and culverts would appear similar to the existing visual environment. For safety considerations, the right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a minor visual impact by the addition of a chain-link fence to these environments.

Reconstructing the railroad along the out-of-service railroad bed from the Stoughton Station south to Weir Junction would substantially affect the visual environment in this segment for occupants of adjoining properties and passers-by. Although the historic railroad bed is present, the tracks were removed in some areas in the late 1950s and much of the alignment is currently used for informal recreation by pedestrians, bicyclists, and all-terrain vehicle (ATV) riders. The limits of disturbance for the new construction of this segment are generally less than 100 feet wide, for wetlands and upland areas, as illustrated in Figures 4.16-2a-2q. The disturbance would include clearing vegetation for the width of the right-of-way along the corridor for safety, visibility, and railroad bed maintenance. Limits of disturbance and vegetation clearing will be minimized to 40 feet wide through special design measures within certain wetland areas, such as the Hockomock Swamp, where a trestle will be constructed. The corridor passes through areas with a variety of land uses, ranging from commercial and industrial to residential and open space. The visual impact from clearing vegetation and reconstructing the railroad within commercial or industrial development, or along active transportation corridors (e.g., highways), would range from minimal to substantial for occupants of adjoining properties and passers-by. Where the alignment passes through or adjacent to residential or open space areas, the visual impact would be more substantially adverse to occupants of adjoining properties and recreationists by the addition of the railroad to a residential or recreational landscape.

As noted above, segments of the Taunton River were recently designated as “scenic” or “recreational” river areas under the National Wild and Scenic Rivers System through the National Park Service. The out-of-service Stoughton Line crosses the Taunton River three times and the tributary Mill River once, immediately north of Weir Junction. All four of these bridges have been recently retrofitted to accommodate a 24-inch diameter water main, attached to the south exterior side of the existing bridge superstructures. This segment of the Taunton River (and including the Mill River within a 0.25-mile wide corridor) is designated as a “recreational river area.” Listed from north to south, these bridges include:¹⁵

- The 118-foot long bridge across the Taunton River at milepost 34.38 (adjacent to Dean Street) was originally constructed in 1907 and rehabilitated at a later, unknown, date, and currently accommodates one track. The bridge is an open timber deck, steel trestle structure consisting of 11 spans of varying length and superstructure type. The bridge is in poor condition, and is not structurally adequate to support the proposed train loads required for the South Coast Rail project.
- The proposed structure is envisioned to be a two-span, ballasted steel thru girder superstructure carrying a single track. The existing piles would be removed to two feet below grade and a new, pile supported, cast-in-place concrete pier would be constructed in the center of the span. New cast-in-place concrete abutments would be constructed behind the existing timber crib abutments, increasing the span length of the bridge. The existing abutments would then be partially removed to an elevation equal to the river’s average seasonal high water elevation. The space between the existing and proposed abutments would be regraded to recreate the river banks on either side of the bridge.

¹⁵ VHB. 1995. Undergrade Bridge Inspection and Rating Report, MBTA New Bedford/Fall River Commuter Rail Extension Project, Stoughton Line. Vanasse Hangen Brustlin, Inc.: Boston.

- The 171-foot long bridge across the Taunton River at milepost 34.62 was also constructed in 1907 and rehabilitated at a later, unknown date, and currently accommodates one track. This bridge is an open timber deck, steel trestle structure consisting of 15 spans of varying length and superstructure type. The existing bridge is in poor condition, and is not structurally adequate to support the proposed train loads required for the South Coast Rail project.
- The proposed structure is envisioned to be a two-span, ballasted steel thru girder superstructure carrying a single track. The pile would be removed to two feet below grade and a cast-in-place concrete pier would be constructed in the center of the span. New cast-in-place concrete abutments would be constructed behind the existing timber crib abutments, increasing the span length. The existing abutments would be partially removed to an elevation equal to the river's average seasonal high water elevation. The space between the existing and proposed abutments would be graded to recreate the stream banks on either side of the bridge.
- The 176-foot long bridge across the Taunton River at milepost 34.73 was constructed at an unknown date but likely in the same timeframe as the two listed above, and currently accommodates one track. The bridge is an open timber deck, steel trestle structure consisting of 17 spans of varying length. The bridge is in poor condition, and is not structurally adequate to support the proposed train loads required for the South Coast Rail project.
- The proposed structure is envisioned to be a two-span, ballasted steel thru girder superstructure carrying a single track. The piles would be removed to two feet below grade and a cast-in-place concrete pier would be constructed in the center of the span. New cast-in-place concrete abutments would be constructed behind the existing timber crib abutments, increasing the span length. The existing abutments would be partially removed to an elevation equal to the river's average seasonal high water elevation. The space between the existing and proposed abutments would be graded to recreate the stream banks on either side of the bridge.
- The 36-foot long bridge across the Mill River at milepost 34.90 was constructed at an unknown date but likely in the same timeframe as the two listed above, and currently accommodates one track. This bridge is an open timber deck structure consisting of a single span and is supported by two steel plate girders. The bridge is in poor condition, and is not structurally adequate to support the proposed train loads required for the South Coast Rail project.
- The proposed structure is envisioned to be a single-span, ballasted steel tub superstructure carrying a single track. New cast-in-place concrete abutments would be constructed behind the existing abutments, increasing the span length. The existing abutments would be partially removed to an elevation equal to the river's average seasonal high water elevation. The space between the existing and proposed abutments would be graded to reconnect the stream banks on either side of the bridge.

The existing 24-inch water main would be temporarily relocated off the existing bridges, to facilitate their demolition and the construction of the proposed replacement bridges. It is envisioned that the

water main would be supported during construction operations by means of temporary utility bridges, located within close proximity to the railroad bridges. In conjunction with the installation of ballast and rail, the existing water main would be relocated onto the new bridge superstructures. At this time, the temporary utility bridges would be permanently removed.

The proposed replacement bridges are configured to enable riverbank reconstruction and wildlife passage in front of the new abutments. In addition, these bridge configurations would reduce the number of piers within the waterway, providing a cleaner, more consistent appearance and better accommodating boaters, and the ballasted superstructures would help to suppress vibration noise during train crossings.

The visual environment of the recreational river area would be permanently altered by the new bridges, but the visual character of this partially developed shoreline would not be adversely affected. The bridge construction activities, potentially including cofferdams, would temporarily adversely impact the visual character of the river in this segment.

A trestle would be constructed for the portion of the railroad passing through the Hockomock Swamp area to allow for wildlife passage and to maintain the current hydrologic regime. The trestle (including catenary structures similar to the rest of the railroad) would be distant from any homes, businesses, or roadways and therefore not visible from those locations. Vegetation clearing along this portion would be limited to a 40-foot width to accommodate safe passage of the trains. A conceptual view of the trestle is provided in Figure 4.5-35. Photographs of typical overhead catenary systems on another railroad are provided in Figure 4.5-31.

Improving, reconfiguring, or constructing the at-grade crossings would moderately affect the appearance at these locations. All existing grade crossings to remain and all reactivated crossings would be equipped with new, state-of-the-art Automatic Highway Crossing Warning (AHCW) systems. Each crossing would be supported by a minimum 8-foot by 8-foot aluminum shed that would house the AHCW system. The houses would be placed at the most advantageous quadrant of the crossing to not impede sight distance of pedestrians, motorists, and train engineers. Existing lights and gates within the active Stoughton Line segment would be replaced with new structures to improve safety; the new structures would be intentionally more visible than the existing lights and gates, for greater contrast with the existing visual environment. Ground level traffic controls (curbs and painted signage) are not expected to substantially alter the existing visual environment. The at-grade crossings would be visible principally to automobile drivers and passengers, as well as occupants of adjacent properties. The crossings would be incidentally visible to train passengers. A photograph of a modern at-grade crossing along another railroad line is provided in Figure 4.5-30.

Within the inactive segment of the Stoughton Line, constructing modern railroad crossings where old crossings have been removed (or were never present) would affect the visual environment at these locations through the addition of metal structures and lights in new locations. Lights, gates, curbs, and/or painted pavement signage would be installed at each crossing. As with the railroad construction itself, the visual impact within commercial or industrial development, or along active transportation corridors (e.g., highways), would be minimal. Where the alignment passes through residential or open space areas (such as near Pine Swamp), the visual impact from adding the at-grade crossings would be moderate, through the introduction of metal structures and lights in a suburban or rural environment. The crossings would be visible to automobile traffic as well as adjacent residents and recreationists, but would be obscured from view from non-adjacent locations.

Constructing the grade-separated crossing at Broadway (Route 138) in Raynham (at mile post 31.31) would substantially affect the appearance of this area. Current plans call for a road bridge crossing above the railroad, depressing the track profile as required to provide adequate vertical clearance under the bridge. The road approaching the overpass from either side would be raised at a shallow angle to allow for appropriate visibility. The visual environment in the vicinity of the crossing, extending into the commercial zones along Broadway in either direction, would be impacted. The grade-separated crossing would be visible principally to automobile drivers and passengers, as well as occupants of adjacent properties. The crossing would be only incidentally visible to train passengers. A photograph of a grade-separated crossing along another railroad line is provided in Figure 4.5-36. Figure 4.5-37 shows the existing conditions at and the location of the proposed Route 138 grade-separated crossing.

Constructing the electrical infrastructure necessary to support the Stoughton Electric Alternative would moderately affect the visual environment along the Stoughton Line. The overhead catenary system would include catenary supports at regular intervals, and electrical wires along the length of the line. The visual impact is anticipated to be minimal within the active segment of the line and within the portions of the inactive segment that pass through commercially developed areas. The visual impact would be more substantial where the currently inactive segment passes through residential or open space areas. The electrical infrastructure would be visible to adjacent residents and recreationists, but would be obscured from view from non-adjacent locations. The electrical infrastructure would be particularly visible to residents of homes adjacent to the railroad, such as near downtown Easton. In segments where the visual environment is particularly sensitive, the catenary supports may be designed to a lower profile appearance to minimize impacts to surrounding visual environment. Photographs of typical overhead catenary systems along another railroad are provided in Figure 4.5-31.

Four new traction power facilities would be constructed to deliver electric power from the regional transmission lines to the overhead catenary system. These include a traction power substation (TPSS-1) and a paralleling station (PS-1) in Easton, a switching station in Canton (SWS-1), and a paralleling station (PS-2) in Taunton. Traction power substation sites are generally 150 feet by 200 feet, switching station sites can be up to 60 feet by 150 feet, and a typical paralleling station site is 40 feet by 80 feet. The traction power facilities would impact the visual environment from adjacent locations. Most proposed sites for these facilities are generally removed from view by passers-by, therefore they have a visual impact on the surrounding environment, but are not frequently seen. They would be seen by passengers on the trains. Figure 4.5-33 shows the proposed locations of the traction power facilities and Figure 4.5-32 provides photographs of existing similar facilities along another railroad line.

However, paralleling stations 1, 2, and 5 do visually impact the surrounding environment. PS-5 is visible from Durfee Street to the east and Davol Street to the west in a commercial area, as illustrated in Figure 4.6-4c. PS-2 is located in a commercial area with residential populations, as illustrated in Figure 4.6-6g, which will negatively impact the adjacent properties to the west. PS-1 is located in an industrial area and will impact the visual environment of adjacent properties to the east, as illustrated in Figure 4.6-6i.

A frontage road would be constructed along the west side of the Stoughton Line between Morton Street and Totman Farm Road in Stoughton. The 30-foot-wide, 3,500-foot-long road would be paved, with a 6-foot wide sidewalk on the west side. An existing railroad bridge over Totman Farm Road would be reconstructed. The proposed structure is envisioned to be a ballasted steel tub superstructure carrying two sets of tracks. New cast-in-place concrete abutments are likely to be required, due to the current condition of the existing abutments. This portion of the Stoughton Line corridor is currently heavily vegetated; removing the vegetation for the frontage road in addition to the railroad construction

described above would further impact the visual environment in this area by removing the screening provided by the vegetation between the homes west of the railroad and Route 138. The east side of the railroad in this segment parallels Washington Street (Route 138); the west side adjoins low- and medium-density residential development. The frontage road would be visible to residents of adjacent homes and passengers on the train. The visual environment from the eastern perspective (Route 138) would be minimally impacted by the frontage road; the visual environment from the western perspective (homes) would be substantially impacted.

Stoughton Diesel Alternative

The Stoughton Diesel Alternative is identical to the Stoughton Electric Alternative with the exception of the locomotive power source. Diesel-powered train service differs from electric-powered service in not requiring electrical infrastructure, and therefore presents less of a visual impact. There would be no overhead catenary system or traction power facilities for the Stoughton Diesel Alternative. All other aspects of the Stoughton Diesel Alternative relevant to visual and aesthetic resources are the same as for the Stoughton Electric Alternative described above. Within the active segment, visual impacts would be limited to the grade crossing improvements. Within the out-of-service segment, visual impacts would be limited to vegetation clearing, the new at-grade crossings, and the replaced bridges over the Taunton and Mill Rivers.

Overall, the impacts to the visual environment from the Stoughton Diesel Alternative would be less than from the Stoughton Electric Alternative, due to the omission of electrical infrastructure along the Stoughton Line.

Whittenton Electric Alternative

The Whittenton Electric Alternative is identical to the Stoughton Electric Alternative alignment described above except for the segment of the Stoughton Line between Raynham Junction and Weir Junction. Specifically, at Raynham Junction the Whittenton Alternative would divert to the southwest to connect to the abandoned Whittenton Branch. The Whittenton Branch would extend south and west to the Attleboro Secondary at Whittenton Junction. Along the Attleboro Secondary, the Whittenton Alternative would extend to Weir Junction in Taunton. Track infrastructure improvements would include 3.6 miles of new single-track on the Whittenton Branch and 2.2 miles of single-track reconstruction on the Attleboro Secondary with a 0.3-mile siding reserved for the proposed Dana Street Station. The southernmost portion of the Stoughton Line, from Raynham Junction to Weir Junction (a distance of 5.1 miles), would be not be used if this alternative is selected. This evaluation focuses on the Whittenton Branch and Attleboro Secondary components; other components of this alternative are described in the preceding Southern Triangle and Stoughton Electric Alternative sections.

Visual and Aesthetic Impacts along the Whittenton Branch Rail Segment

New track would be placed on the out-of-service Whittenton Branch railroad bed from Raynham Junction to Whittenton Junction. The existing public at-grade road/railroad crossings would be reconfigured and/or improved to current safety standards. New catenary supports and wires would be constructed along the length of the line. No traction power facilities, stations or layover facilities would be constructed along this segment. Potential direct impacts to visual and aesthetic resources resulting from constructing the upgraded rail lines and electrical infrastructure are described below.

Beginning at Raynham Junction, the Whittenton Branch is adjacent to or passes through open space, moderate density residential development, and industrial properties in Raynham and Taunton. The

visual environment throughout this alignment would be variable from the riders' perspective, including all of these components. Notable sights include Prospect Hill Pond (east of the Whittenton Branch) and the Mill River crossing, both in Taunton. Passengers would view undeveloped forest land just prior to where the Whittenton Branch joins the Attleboro Secondary at Whittenton Junction.

Components of the Whittenton Branch improvements and construction for the Whittenton Electric Alternative that would potentially change the visual and aesthetic environment are:

- Railroad construction or reconstruction, including track, railroad bed, bridges, and culverts;
- At-grade crossing improvements and construction, including modern lights, gates, curbs, and painted signage for traffic control; and
- Electrical infrastructure construction, including overhead catenary system and traction power facilities.

Constructing the new railroad to replace the abandoned railroad tracks along the Whittenton Branch would minimally to moderately affect the visual environment in this segment for occupants of adjoining properties and passers-by. Vegetation has overgrown the existing railroad to some extent, although unauthorized all-terrain vehicle use has kept the alignment open. The new construction would require clearing vegetation for the width of the right-of-way (between 60 and 100 feet) in upland areas along the corridor for safety, visibility, and railroad bed maintenance. Vegetation clearing will be minimized within wetland areas, to between 40 and 60 feet wide.

The corridor passes through areas with a variety of land uses, ranging from commercial and industrial to residential and undeveloped land. The reconstructed railroad would be visible to occupants of adjacent properties and passers-by. Replacing bridges, such as at King Philip Street and Bay Street, would change the views along the crossed streets. The Mill River bridge is distinct from the crossing described in the section on the Stoughton Electric Alternative and is more than 0.25-mile from the "recreational river area" of the Taunton River. The bridge replacement here would change the visual environment of the Mill River, but because it is outside of the regulated buffer zone it is not evaluated in the context of the Wild and Scenic River designation of the Taunton River.

The visual impact from clearing vegetation and reconstructing the railroad within commercial or industrial development, or along active transportation corridors such as highways, would be minimal. Where the alignment passes through residential or undeveloped areas, the railroad would be visible and the visual impact would be more substantial by the introduction of rail service through a residential environment. Additionally, for safety considerations, the right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a minor visual impact by the addition of a chain-link fence to these environments. The combination of additional fencing and active rail may dissuade the dumping of yard waste and other debris that presently occurs along the abandoned tracks, providing a potential improvement to the overall visual character of the corridor.

Along the inactive Whittenton Branch, constructing modern railroad crossings where old crossings have been removed (or were never present) would moderately affect the visual environment at these locations. Lights, gates, curbs, and/or painted pavement signage would be installed at each crossing. All crossings would be equipped with new, state-of-the-art Automatic Highway Crossing Warning (AHCW) systems. Each crossing would be supported by a minimum 8-foot by 8-foot aluminum shed that would house the AHCW system. The houses would be placed at the most advantageous quadrant of the

crossing to not impede sight distance of pedestrians, motorists, and train engineers. As with the railroad construction itself, the visual impact within commercial development (at Whittenton Street) would be minimal. Where the alignment passes through residential or open space areas (Warren Street), the visual impact from the at-grade crossing will be more substantial. The crossings would be visible to motorists as well as adjacent residents and recreationists, but would be obscured from view from non-adjacent locations. A photograph of a modern at-grade crossing along another railroad line is provided in Figure 4.5-30.

Constructing the electrical infrastructure necessary to support the Whittenton Electric Alternative would moderately affect the visual environment along the Whittenton Branch by introducing metal structures and wires into a residential environment. The overhead catenary system would include catenary supports at regular intervals, and electrical wires along the length of the line. The visual impact is anticipated to be minimal within the active segment of the line and within the portions of the inactive segment that pass through developed areas. The visual impact would be more substantial where the currently inactive segment passes through residential or undeveloped areas. The electrical infrastructure would be visible to adjacent residents and recreationists, but would be obscured from view from non-adjacent locations. Photographs of typical overhead catenary systems along another railroad are provided in Figure 3-31.

Visual and Aesthetic Impacts along the Attleboro Secondary Rail Segment

The Whittenton Electric Alternative includes 2.2 miles of single track reconstruction on the existing Attleboro Secondary with a 0.3-mile siding reserved for the proposed Dana Street Station. All of the existing at-grade road/railroad crossings would be reconfigured and/or improved to meet current safety standards. Grade crossings would be closed or consolidated whenever feasible. The freight service using the Attleboro Secondary is diesel-powered; no electrical infrastructure is present. New catenary supports and wires would be constructed along the 2.2-mile length of the line shared by commuter trains. Potential direct impacts to visual and aesthetic resources resulting from constructing the upgraded rail lines and electrical infrastructure are described below.

One new train station would be constructed along this alignment in Taunton (Dana Street Station). No new layover facilities would be constructed along this segment. Potential direct impacts to visual and aesthetic resources from constructing and using the new station along the Attleboro Secondary are considered in the Stations section.

The relatively short, 2.2-mile Attleboro Secondary segment traverses downtown Taunton. Passengers would see the densely developed downtown area prior to reaching Weir Junction, where the Attleboro Secondary joins the New Bedford Main Line (described above).

Components of the Attleboro Secondary improvements for the Whittenton Electric Alternative that would potentially change the visual and aesthetic environment are:

- Railroad upgrades, including track, railroad bed, bridges, and culverts;
- At-grade crossing construction, including lights, gates, curbs, and painted signage for traffic control; and
- Electrical infrastructure construction, including overhead catenary system and traction power facilities.

Railroad upgrades minimally affect the visual environment along the Attleboro Secondary for passengers, occupants of adjoining properties, or passers-by. The upgraded track, railroad bed, bridges, and culverts would appear similar to the existing visual environment. For safety considerations, the right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a minor visual impact by the addition of a chain-link fence to these environments.

Improving or reconfiguring the at-grade crossings would moderately affect the appearance of these areas. All existing grade crossings to remain and all reactivated crossings would be equipped with new, state-of-the-art Automatic Highway Crossing Warning (AHCW) systems. Each crossing would be supported by a minimum 8-foot by 8-foot aluminum shed that would house the AHCW system. The houses would be placed at the most advantageous quadrant of the crossing to not impede sight distance of pedestrians, motorists, and train engineers. Existing lights and gates would be replaced with new structures to improve safety; the new structures would be intentionally more visible than the existing lights and gates, for greater contrast with the existing visual environment. Ground level traffic controls (curbs and painted signage) are not expected to substantially alter the existing visual environment. The at-grade crossings would be visible principally to automobile drivers and passengers, as well as occupants of adjacent properties. The crossings would be only incidentally visible to train passengers. A photograph of a modern at-grade crossing on another railroad line is provided in Figure 4.5-30.

Constructing the electrical infrastructure necessary to support the Whittenton Alternative would also moderately affect the visual environment along the Attleboro Secondary by adding metal structures and wires to the existing railroad in a rural landscape. The overhead catenary system would include catenary supports at regular intervals, and electrical wires along the length of the line. The overhead catenary system would be visible to occupants of adjacent properties and motorists at crossing or paralleling locations. The electrical infrastructure would also be visible to residents of homes adjacent to the railroad, particularly near downtown Taunton. In segments where the visual environment is particularly sensitive, the catenary supports may be designed to a lower-profile appearance to minimize impacts to surrounding visual environment. Photographs of typical overhead catenary systems along another railroad are provided in Figure 3-31.

Figure 4.5-38 shows the proposed locations of the traction power facilities and Figure 4.5-32 provides photographs of existing similar facilities along another railroad line. One traction power facility, a paralleling station, would be constructed along the Attleboro Secondary for the Whittenton Electric Alternative. Paralleling stations typically require a 40-foot by 80-foot site. The paralleling station (PS-2) would be visible to train passengers, other users of the station, and occupants of adjacent commercial buildings, but would not substantially impact the visual environment of this developed area.

Whittenton Diesel Alternative

The Whittenton Diesel Alternative is identical to the Whittenton Electric Alternative with the exception of the locomotive power source. As described above for the Stoughton Diesel Alternative, diesel-powered train service differs from electric-powered service in not requiring electrical infrastructure, and therefore presents less of a visual impact. All other aspects of the Whittenton Diesel Alternative are the same as for the Whittenton Electric Alternative. Visual impacts would be limited to vegetation clearing and the grade crossing improvements.

Overall, the impacts to the visual environment from the Whittenton Diesel Alternative would be less than from the Whittenton Electric Alternative, due to the omission of electrical infrastructure along the Whittenton Branch.

Stations

This section provides basic descriptions of each train station, an indication of its appearance in reference to the existing visual environment, and a discussion about the visual impacts potentially resulting from constructing or reconstructing these stations for the South Coast Rail project.

Typically, the rail stations would consist of an 800-foot long platform to allow passengers to enter and exit the trains, a canopy on the platform, and parking lot. Some stations would not have dedicated parking lots (instead, they would share parking with other nearby facilities) and others would have parking structures rather than lots. Signage and safety lighting at the stations would be unobtrusive, but visible to passers-by and to some extent to occupants of adjacent properties. Variable message signs would be used, and downward-facing light hoods would be installed to minimize light pollution from safety lights. Typical details of side platform and center platform style stations are provided in Figures 4.5-39 and 4.5-40, respectively, for reference.

Battleship Cove Station

The Battleship Cove Station would use an existing developed area as a new train station that would serve all Build Alternatives. It would be located on Water Street in Fall River, near the southern terminus of the Fall River Secondary.

The Battleship Cove Station site was previously developed by the City for the Ponta Delgada Plaza. The station would be in a sparsely vegetated area at the rear of the plaza. The station would be visible from nearby higher elevation streets and similar-elevation industrial buildings and high-density residential areas.

A conceptual layout of this station is shown in Figure 4.5-41. The Battleship Cove Station would be a one side platform style (Figure 4.5-39). No parking lot is planned for this facility. The station would minimally affect the visual environment by replacing the existing vegetated area at the plaza with a new canopy and platform. The station would be visible to users, passers-by, and occupants of nearby buildings. Its appearance would be in keeping with the surrounding developed visual environment and monument. MassHighways has roadway improvement plans for Broadway south of the Battleship Cove Station, which include the construction of an on-/off-ramp from Broadway to Water Street, passing directly above the proposed track, just west of the rail platform. The MassDOT improvements would be visible from Battleship Cove station and impact the visual environment of station users.

Canton Center Station

The Canton Center Station is an existing train station along the Stoughton Line that would serve all Build Alternatives. It is located at 710 Washington Street in Canton. This station would be modified to accommodate a second track. A conceptual layout of the station is provided in Figure 4.5-42. Two new 800-foot long low-level platforms with mini-high platforms would be constructed (one adjacent to each track). Modifications to the tracks and platforms would require minor changes to the parking layout in the existing lots near the station, and no adjustments to the amount of existing parking spaces would be expected. Minor impacts to the visual environment would result from reconstructing the Canton Center Station.

Dana Street Station (Whittenton Alternatives)

The Dana Street Station would be a new station along the Attleboro Secondary that would serve only the Whittenton Alternatives. The station would be located west of Dana Street, just south of the Danforth Street grade crossing and within walking distance of downtown Taunton. The site is a previously developed, currently vacant parcel surrounded by dense development including commercial, industrial, and residential uses. It is visible from Danforth Road to the west. The residential developments west of Danforth Road do not have direct or unobstructed views into the site due to vegetation screening and the orientation of the residential development. The station site is partially visible from Dana Street to the north. However this area is vacant. No public views would be available into the Dana Street station from the south, as this area is occupied by an existing rail line. Public views into the Dana Street from the east are not available as the parcel south of the station site is occupied by auto-related industrial land uses.

A conceptual layout of the station is provided in Figure 4.5-43. This station would be a one side platform style (Figure 4.5-39). The visual environment would be affected by replacing the existing vacant lot with a new parking lot, sidewalk, canopy and platform. The station would be visible to users and passers-by. Its appearance would be in keeping with the existing developed visual environment. Impacts to the visual environment in the vicinity of the Dana Street Station would be minimal.

Easton Village Station

The Easton Village Station would be a new train station constructed along the Stoughton Line that would serve all Build Alternatives. The Easton Village Station site is on Sullivan Avenue at the transition point to Mechanic Street (near the intersection with Pond Street) in Easton.

The Easton Village Station site is a partially developed parcel surrounded by industrial and residential development. The site is in developed downtown Easton, adjacent to a historic train station and small parking area. The site is visible only from adjacent roads and properties.

A conceptual layout of this station is shown in Figure 4.5-44. The Easton Village Station would be a side platform style (Figure 4.5-39). The station would be a new structure consisting of a canopy, pedestrian ramp, and high-level platform on the west side of the tracks. A passenger drop-off location would be provided at the historic train depot parking lot east of the tracks, with pedestrian access to the station via an existing underpass at Pond Street. Standard parking facilities would not be included at this station. The station would be visible to users, passers-by, and occupants of nearby buildings.

As described above, the Stoughton Line right-of-way would be fenced where it passes through dense residential or downtown areas, presenting a visual impact by the addition of a chain-link fence to these environments. For the Easton Village Station, the fencing would be proximate to the historic district and historic train depot, altering the visual character of this area.

Adverse impacts to the visual environment in the vicinity of the new Easton Village Station would be substantial.

Fall River Depot Station

The Fall River Depot Station would be a new train station constructed along the Fall River Secondary to serve all Build Alternatives. It would be located near the intersection of North Davol Street and Pearce Street in Fall River.

The Fall River Depot Station site is a previously developed site surrounded by commercial and industrial development. Numerous commercial/industrial buildings in poor to fair visual condition are present on-site. The existing parking lots are also in poor condition. This site is visible from adjacent roads and nearby properties.

A conceptual layout of this station is shown in Figure 4.5-45. The Fall River Depot Station would be a side platform style (Figure 4.5-39). The station would favorably affect the visual environment by replacing the existing vacant commercial buildings and parking lot with a new canopy, platform, and parking deck. The station would be visible to users, passers-by, and occupants of nearby buildings. Its appearance would be an improvement compared to the existing vacant buildings and parking lots. Impacts to the visual environment in the vicinity of the Fall River Depot Station would be moderately beneficial.

Freetown Station

The Freetown Station would be a new train station constructed along the Fall River Secondary to serve all Build Alternatives. It would be located along South Main Street in Freetown. The Freetown Station site is behind a self-storage facility with associated parking; immediately adjacent properties are open land and forest. A cellular phone tower site is also adjacent. Low-density residential development is nearby. The self-storage facility contains four buildings in fair visual condition, and can be viewed from adjacent roads and residences. The self-storage facility and cell tower would remain at the site.

A conceptual layout of this station is included as Figure 4.5-46. The Freetown Station would be a side platform style (Figure 4.5-39). The station would affect the visual environment by adding a new access road, canopy, platform, and parking lot north and east of the existing self-storage facility. A bus drop-off loop would be included at this location. The station would be partially visible to users, passers-by, and occupants of nearby buildings, although off-site views would be obstructed by the existing buildings and surrounding vegetation. Impacts to the visual environment in the vicinity of the Freetown Station would be minimal.

King's Highway Station

The King's Highway Station would be a new train station constructed along the New Bedford Main Line to serve all Build Alternatives. It would be located near the intersection of King's Highway and Tarkiln Hill Road in New Bedford.

The King's Highway Station site is along the railroad right-of-way behind the King's Highway Plaza, a traditional strip mall (commercial development). The site is visible from adjacent roads and some of the commercial buildings. The existing retail establishments are in a variety of sizes and visual conditions.

Figure 4.5-47 shows the conceptual layout of this station. The King's Highway Station would be a side platform style (Figure 4.5-39). The station would affect the visual environment by adding a new canopy and platform. Parking would be shared with the existing, surrounding commercial businesses. The station would be partially visible to users, passers-by, and occupants of adjacent buildings. Its

appearance would be in keeping with the nearby developed visual environment. Impacts to the visual environment in the vicinity of the King's Highway Station would be minimal.

North Easton Station

The North Easton Station would be a new train station constructed along the Stoughton Line that would serve all Build Alternatives. It would be located at 21 Washington Street in Stoughton.

The North Easton Station site is an undeveloped parcel surrounded by commercial development and undeveloped land. The site is behind (west of) the Roche Brothers Shopping Plaza, with forested land and medical buildings also adjacent. The shopping plaza buildings and medical building are all in excellent visual condition. The site is not visible from adjacent roads or the shopping plaza, but is visible from the medical buildings. The perspective from the medical buildings would be from above, as the station would be at a much lower elevation.

A conceptual layout of this station is shown in Figure 4.5-48. The North Easton Station would be a center platform style (Figure 4.5-40). The center platform would be accessed by a passenger crossover (pedestrian bridge and stairs), approximately 23 feet tall. The station would affect the visual environment by replacing the existing vacant lot with a new canopy, platform, and parking lot. The station would be visible to users and occupants of the adjacent medical building, but not to passers-by on Route 138. Impacts to the visual environment in the vicinity of the North Easton Station would be minimal.

Raynham Park Station

The Raynham Park Station would be a new train station constructed along the Stoughton Line that would serve all Build Alternatives. It would be located at 1958 Broadway in Raynham, adjacent to the Raynham-Taunton Greyhound Park off of Route 138, which is currently operated as a simulcast betting location.

The Raynham Park site is a developed parcel that is a portion of surrounding recreational and industrial development; access to adjacent industrial facilities would be incorporated in the station design. Existing structures are in fair visual condition. Other nearby land is undeveloped. The site is not visible from nearby public roads, but is visible from other portions of the existing business.

A conceptual layout of this station is shown in Figure 4.5-49. The Raynham Park Station would be a center platform style (Figure 4.5-40) accessed by a passenger crossover (pedestrian bridge and stairs) approximately 23 feet tall. The station would favorably affect the visual environment by replacing some of the existing parking lot and development with a new canopy, platform, and parking lot. The station would be visible to users and occupants of the adjacent buildings, but not to passers-by on Route 138. Its appearance would be an improvement over the nearby developed visual environment, but would be in contrast to nearby undeveloped land. Impacts to the visual environment in the vicinity of the Raynham Park Station would be minimal.

Stoughton Station

The Stoughton Station would be a new train station constructed along the Stoughton Line, west of the existing railroad tracks and north of Brock Street, which would serve all Build Alternatives. In order to

accommodate a second track, the existing Stoughton station would be shifted from its present location between Porter and Wyman streets to a new location south of the Wyman Street at-grade crossing.

A conceptual layout of this station is shown in Figure 4.5-50. The station design type would be a two side platforms (an inbound and outbound platform), each with a canopy, connected by a vertical circulation pedestrian bridge approximately 23 feet tall. The station would be visible from the rear of businesses along Washington Street (Route 138) and Morton Street, and from the rear of approximately five residences along Morton Street and Brock Street. Views of the station from other residences along Morton Street would be screened by trees. The primary view of the station would be from Brock Street at the station driveway. Its appearance would be in keeping with the surrounding visual environment, and impacts to the visual environment would be minimal.

Taunton Station (Stoughton Alternatives)

The Taunton Station would be a new train station constructed along the Stoughton Line that would only serve the Stoughton Alternatives. It would be located near the intersection of East Arlington Street and William Hooke Lane in Taunton.

The Taunton Station site is a previously developed parcel surrounded by commercial development. This location is near a former (historic) train station. The site currently contains vacant buildings and other derelict areas as a result of fire; all are in poor visual condition. The site is visible from nearby roads and residences, and partially visible from sports fields on the opposite (east) side of the tracks.

A conceptual layout of this station is shown in Figure 4.5-51. The Taunton Station would be a side platform style (Figure 4.5-39). The station would favorably affect the visual environment by replacing the existing vacant and derelict structures with a new canopy, platform, and parking lot. The station would be visible to users, occupants of nearby properties, and passers-by. Impacts to the visual environment in the vicinity of the Taunton Station would be very beneficial.

Taunton Depot Station

The Taunton Depot Station (formerly referred to as East Taunton (North) Station) would be a new train station constructed along the New Bedford Main Line that would serve all Build Alternatives. It would be located at 872 County Street in Taunton, behind the existing Target plaza.

The Taunton Depot Station site is an undeveloped parcel adjacent to commercial development and undeveloped lands. Much of the site has been cleared of trees but is vegetated with shrubs and grasses. The adjacent shopping plaza contains numerous retail establishments and is in good visual condition. This site, at the rear of the shopping plaza, is not visible from nearby roadways or the plaza parking lot or stores, and is not visible from other sides due to the forest cover.

A conceptual layout of this station is shown in Figure 4.5-52. The Taunton Depot Station would be a center platform style (Figure 4.5-40). The station would replace the existing vacant lot with a new canopy, platform, and parking lot. The center platform would be accessed by a passenger crossover (pedestrian bridge and stairs), approximately 23 feet tall. The station would be visible to users but generally not to passers-by or other building occupants because of lack of vantage points. Only minor impacts to the visual environment would result from constructing the Taunton Depot Station.

Whale's Tooth Station

The Whale's Tooth Station would be a new train station constructed along the New Bedford Main Line constructed to serve all Build Alternatives. It would be located near the intersection of Acushnet Avenue and Hillman Street, near the southern terminus of the New Bedford Main Line.

The Whale's Tooth Station site is at an existing parking lot surrounded by industrial development. The site is visible from adjacent roads and properties, as well as nearby residences at higher elevations.

A conceptual layout of this station is shown in Figure 4.5-53. The Whale's Tooth Station would be a side platform style (Figure 4.5-39). The station would minimally affect the visual environment with a new canopy and platform constructed at the existing parking lot. The lot would be modified to include accessible spaces near the station platform, a pick-up/drop off area for buses and kiss & ride, and to provide better connections to Acushnet Avenue. The station would be visible to users, occupants of nearby properties, and passers-by. Its appearance would be in keeping with the surrounding developed visual environment. Impacts to the visual environment in the vicinity of the Whale's Tooth Station would be minimal.

Layover Facilities

The Build Alternatives would require midday storage in the Boston area. The mid-day train layover facility is being investigated separately as part of the South Station Expansion Project. Two train layover facilities are planned for the Southern Triangle: one each at or near the end of the Fall River Secondary and the New Bedford Main Line. Three alternative sites were identified for the Fall River Secondary, and two alternative sites were identified for the New Bedford Main Line. The Weaver's Cove East site was selected as the preferred layover facility site for the Fall River Secondary and the Wamsutta site was selected as the preferred layover facility site for the for the New Bedford Line. This section provides basic descriptions of each layover facility site, an indication of its location in reference to the existing visual environment, and a discussion about the visual impacts potentially resulting from constructing these facilities for the South Coast Rail project.

Layover facility plans are conceptual at this point, consisting only of general layouts and footprints. Tracks at the train layover facilities would diverge from the respective through lines (Fall River Secondary, or New Bedford Main Line) and consist of a series of short parallel spurs upon which trains would be parked for overnight layovers and light maintenance work. Parking areas for employees would be included within the facilities, and hooded lights would minimize light pollution. Small site structures are planned for storage and personnel change rooms. The facilities would be fenced and lighted for security. Engineering plans will be completed for these facilities once the LEDPA has been determined.

Wamsutta Layover Facility

The Wamsutta site layover facility would be constructed along the New Bedford Main Line and would serve all rail alternatives. It would be located in New Bedford near the intersection of Wamsutta Street and Herman Melville Boulevard, near the southern terminus of the New Bedford Main Line, just north of the Whale's Tooth Station.

The Wamsutta site is a previously developed site, currently used as a rail yard for CSX, within an industrial area. The site is visible from adjacent roads and buildings. Adjoining properties are transportation corridors or industrial in nature. Industrial sites are located north, east, and south of this

location, and Route 18 to the west. No commercial or residential properties, or open spaces, are located in close proximity to this site. A conceptual layout of a layover facility at the Wamsutta site is shown in Figure 4.5-54.

The Wamsutta site layover facility would minimally affect the visual character of this developed area, continuing its railroad use. The facility would be visible to occupants of nearby properties and passers-by. Its appearance would be in keeping with the surrounding industrial developed visual environment. The proposed new layover facility would not appreciably alter the visual environment given that the site is in an industrial setting partially occupied by an existing rail yard.

Weaver's Cove East Layover Facility

The Weaver's Cove East site layover facility would be constructed along the Fall River Secondary and would serve all rail alternatives. It would be located in Fall River west of Main Street between the existing Fall River Secondary and Main Street, approximately 2.5 miles from the southern terminus of the Fall River Secondary.

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. Currently vacant land, a portion of the Weaver's Cove East site was previously developed. Approximately one-half of the site is cleared of vegetation or includes remnant building foundations; the remainder of the site is vegetated. Surrounding land to the north, east, and south is residential; industrial land use is present to the southwest. Undeveloped land is immediately west of the site, adjoining the Taunton River. The industrial site to the southwest is a former Shell Oil facility, and consists of completely cleared land with several large aboveground storage tanks and a short shipping dock. The layover facility site is visible from the adjacent residential properties. The layover facility would also be visible from the Taunton River, but partially obscured from view by vegetation. As described above, this segment of the Taunton River has been designated as a "recreational river area," recognizing its aesthetic value and developed shoreline. A conceptual layout of a layover facility at the Weaver's Cove East site is shown in Figure 4.5-55.

The visual environment of the recreational river area would be permanently altered by the new layover facility, but the visual character of this partially developed shoreline would not be adversely affected. The facility construction activities would temporarily adversely impact the visual character of the river in this segment.

The Weaver's Cove East site layover facility would substantially affect the visual environment in this partially developed area. The facility would be visible to occupants of nearby properties and to passers-by on Main Street. The layover facility would be partially visible to passers-by on the Taunton River. Its appearance would be in keeping with the existing developed industrial visual environment but in contrast to adjacent residential and undeveloped land. It may adversely affect the visual setting of the North Main Street District of Fall River.

4.5.4 Summary of Impacts by Alternative

This section summarizes the direct effects to visual and aesthetic resources potentially resulting from implementing each of the South Coast Rail project alternatives, based upon conceptual engineering plans.

The individual components of each element are grouped by alternative, and the expected impacts to the surrounding visual environment are summarized based upon a qualitative assessment of the change in the visual character of the local environment that would result from each component combined with the actual visibility of those changes. The visual impacts of each element are rated as substantial, moderate, or minimal, based upon a qualitative generalization of how easily and frequently the changed visual environment may be seen by occupants of adjacent or nearby properties (including residences and businesses), recreationists on adjacent open space, or passers-by on sidewalks, roads, highways or water bodies. This evaluation does not take into consideration the perspective of passengers on the trains or buses.

4.5.4.1 Stoughton Electric Alternative

The Stoughton Electric Alternative (Figure 1.4-4) would be comprised of the elements listed in Table 4.5-1, which also summarizes the direct effects to visual and aesthetic resources potentially resulting from implementing this alternative.

In general, the Stoughton Electric Alternative presents moderate impacts to the visual environment. The visual impacts would vary locally and by individual component, but this alternative would use existing infrastructure (upgraded as necessary) only to a moderate degree. Where existing infrastructure is used, most impacts to the visual environment would be incremental additions to an existing, disturbed landscape with active rail use. The out-of-service portion of the Stoughton Line segment, from the Stoughton Station south to Weir Junction, would require railroad reconstruction and new electrical infrastructure construction with attendant substantial impacts to the visual environment. Vegetation removal would change the visual character for residential neighborhoods and open spaces along this portion of the Stoughton Line. In some portions of this segment, and at some of the station sites, the visual impact is partially offset by the low visibility of these sites, in somewhat remote locations, to the general public. The visual character in the vicinity of the historic district in Easton would be substantially affected by the re-established train service and new Easton Village Station.

Table 4.5-1 Summary of Potential Direct Effects to Visual and Aesthetic Resources from the Stoughton Electric Alternative

Element/Component	Change in Visual Environment	Visual Impact
Railroad Alignments		
Northeast Corridor	No new construction	None
Stoughton Line	Track, crossing, and electrical infrastructure upgrades in active, disturbed environment and new track, trestle, crossing, and electrical infrastructure construction in out-of-service railroad corridor, including urban and rural settings, and four crossings of a designated “Wild and Scenic River” with overhead catenary system	Moderate to Substantial
Fall River Secondary	Track and crossing upgrades, and electrical infrastructure construction in active, disturbed environment including rural and urban settings, and one crossing of a designated “Wild and Scenic River” with overhead catenary system	Moderate
New Bedford Main Line	Track and crossing upgrades, and electrical infrastructure construction in active, disturbed environment including rural and urban settings	Moderate
Stations		
Canton Center	Station reconstruction in developed area	Minimal
Stoughton	New station construction in developed area	Minimal
North Easton	New station construction in partially developed/ undeveloped area	Minimal
Easton Village	New station construction in partially developed/ undeveloped area	Substantial
Raynham Park	New station construction in developed area	Minimal
Taunton	New station construction in developed area	Moderate (beneficial)
Taunton Depot	New station construction in partially developed/ undeveloped area	Minimal
Freetown	New station construction in partially developed/ undeveloped area	Minimal
Fall River Depot	New station construction in developed area	Moderate (beneficial)
Battleship Cove	New station construction in developed area	Minimal
King’s Highway	New station construction in developed area	Minimal
Whale’s Tooth	New station construction in developed area	Minimal
Layover Facility Alternatives		
Wamsutta Site	New facility construction in developed area	Minimal
Weaver’s Cove East Site	New facility construction in partially developed area, including designated “Wild and Scenic River”	Moderate

4.5.4.2 Stoughton Diesel Alternative

The Stoughton Diesel Alternative would be comprised of the same elements as the Stoughton Electric Alternative (shown in Figure 1.4-4) as listed above but would not need electrical infrastructure. Specifically, the metal structures and wires associated with the overhead catenary system, and the traction power facilities, would not be constructed as part of this alternative. Table 4.5-2 summarizes the direct effects to visual and aesthetic resources potentially resulting from implementing this alternative.

In general, the Stoughton Diesel Alternative also presents moderate impacts to the visual environment, but less of an impact than the electric alternative because there would not be electric infrastructure along the alignment. As with the Stoughton Electric Alternative, the visual impacts would vary locally

and by individual component. Where existing infrastructure is used, most impacts to the visual environment would be incremental additions to an existing, disturbed landscape with active rail use. The out-of-service portion of the Stoughton Line segment, from the Stoughton Station south to Weir Junction, would require significant railroad reconstruction with attendant significant impacts to the visual environment. Vegetation removal would change the visual character for residential neighborhoods and open spaces along this portion. In some portions of this segment, and at some of the station sites, the visual impact is partially offset by the low visibility of these sites, in somewhat remote locations, to the general public. The visual character in the vicinity of the historic district in Easton would be substantially affected by the re-established train service and new Easton Village Station.

Table 4.5-2 Summary of Potential Direct Effects to Visual and Aesthetic Resources from the Stoughton Diesel Alternative

Element/Component	Change in Visual Environment	Visual Impact
Railroad Alignments		
Northeast Corridor	No new construction	None
Stoughton Line	Track and crossing upgrades in active, disturbed environment and new track, trestle and crossing construction in out-of-service railroad corridor, including urban and rural settings, and four crossings of a designated “Wild and Scenic River”	Minimal to Substantial
Fall River Secondary	Track and crossing upgrades in active, disturbed environment including rural and urban settings, and one crossing of a designated “Wild and Scenic River”	Minimal
New Bedford Main Line	Track and crossing upgrades in active, disturbed environment including rural and urban settings	Minimal
Stations		
Canton Center	Station reconstruction in developed area	Minimal
Stoughton	New station construction in developed area	Minimal
North Easton	New station construction in partially developed/ undeveloped area	Minimal
Easton Village	New station construction in partially developed/ undeveloped area	Substantial
Raynham Park	New station construction in developed area	Minimal
Taunton	New station construction in developed area	Moderate (beneficial)
Taunton Depot	New station construction in partially developed/ undeveloped area	Minimal
Freetown	New station construction in partially developed/ undeveloped area	Minimal
Fall River Depot	New station construction in developed area	Moderate (beneficial)
Battleship Cove	New station construction in developed area	Minimal
Stations		
King’s Highway	New station construction in developed area	Minimal
Whale’s Tooth	New station construction in developed area	Minimal
Layover Facility Alternatives		
Wamsutta Site	New facility construction in developed area	Minimal
Weaver’s Cove East Site	New facility construction in partially developed area, including designated “Wild and Scenic River”	Moderate

No new electrical infrastructure construction (overhead catenary system and traction power facilities) would be needed. This reduces the overall visual impact of the Stoughton Diesel Alternative as compared to the Stoughton Electric Alternative.

4.5.4.3 Whittenton Electric Alternative

The Whittenton Electric Alternative would be comprised of the elements listed in Table 4.5 3, which also summarizes the direct effects to visual and aesthetic resources potentially resulting from implementing this alternative.

Table 4.5-3 Summary of Potential Direct Effects to Visual and Aesthetic Resources from the Whittenton Electric Alternative

Element/Component	Change in Visual Environment	Visual Impact
Railroad Alignments		
Northeast Corridor	No new construction	None
Stoughton Line	Track, crossing, and electrical infrastructure upgrades in active, disturbed environment and new track, trestle, crossing, and electrical infrastructure construction in out-of-service railroad corridor, including urban and rural settings	Moderate to Substantial
Whittenton Branch	New track, crossing, and electrical infrastructure construction in out-of-service railroad corridor, including urban and rural settings	Moderate
Attleboro Secondary	Track and crossing upgrades, and electrical infrastructure construction in active, disturbed environment including rural and urban settings	Moderate
Fall River Secondary	Track and crossing upgrades, and electrical infrastructure construction in active, disturbed environment including rural and urban settings, and one crossing of a designated "Wild and Scenic River" with overhead catenary system	Moderate
New Bedford Main Line	Track and crossing upgrades, and electrical infrastructure construction in active, disturbed environment including rural and urban settings	Moderate
Stations		
Canton Center	Station reconstruction in developed area	Minimal
Stoughton	New station construction in developed area	Minimal
North Easton	New station construction in partially developed/ undeveloped area	Minimal
Easton Village	New station construction in partially developed/ undeveloped area	Substantial
Raynham Park	New station construction in developed area	Minimal
Dana Street	New station construction in developed area	Minimal
Taunton Depot	New station construction in partially developed/ undeveloped area	Minimal
Freetown	New station construction in partially developed/ undeveloped area	Minimal
Fall River Depot	New station construction in developed area	Moderate (beneficial)
Battleship Cove	New station construction in developed area	Minimal
King's Highway	New station construction in developed area	Minimal
Whale's Tooth	New station construction in developed area	Minimal
Layover Facility Alternatives		
Wamsutta Site	New facility construction in developed area	Minimal
Weaver's Cove East Site	New facility construction in partially developed area, including designated "Wild and Scenic River"	Moderate

In general, the Whittenton Electric Alternative presents a moderate impact to the visual environment. As with the Stoughton Electric Alternative, the visual impacts would vary locally and by individual component, but this alternative would use existing infrastructure (upgraded as necessary) only to a moderate degree. Where existing infrastructure is used, most impacts to the visual environment would be incremental additions to an existing, disturbed landscape with active rail use. The out-of-service portion of the Stoughton Line and Whittenton Branch segments, from the Stoughton Station south to Raynham Junction and on to Whittenton Junction, would require railroad reconstruction and new electrical infrastructure construction with attendant significant impacts to the visual environment.

Vegetation removal would change the visual character for residential neighborhoods and open spaces along this portion. In some portions of this segment, and at some of the station sites, the visual impact is partially offset by the low visibility of these sites, in somewhat remote locations, to the general public. The visual character in the vicinity of the historic district in Easton would be substantially affected by the re-established train service and new Easton Village Station.

4.5.4.4 Whittenton Diesel Alternative

The Whittenton Diesel Alternative would be comprised of the same elements as the Whittenton Electric Alternative as listed above but would not need electrical infrastructure. Specifically, the metal structures and wires associated with the overhead catenary system, and the traction power facilities, would not be constructed as part of this alternative. Table 4.5-4 summarizes the direct effects to visual and aesthetic resources potentially resulting from implementing this alternative.

In general, the Whittenton Diesel Alternative also presents a moderate impact to the visual environment, but less of an impact than the electric alternative because there would not be electric infrastructure along the alignment. As with the Stoughton Diesel Alternative, the visual impacts would vary locally and by individual component. Where existing infrastructure is used, most impacts to the visual environment would be incremental additions to an existing, disturbed landscape with active rail use. The out-of-service portion of the Stoughton Line and Whittenton Branch segments, from the Stoughton Station south to Raynham Junction and on to Whittenton Junction, would require railroad reconstruction with attendant significant impacts to the visual environment. Vegetation removal would change the visual character for residential neighborhoods and open spaces along this portion. In some portions of this segment, and at some of the station sites, the visual impact is partially offset by the low visibility of these sites, in somewhat remote locations, to the general public. The visual character in the vicinity of the historic district in Easton would be substantially affected by the re-established train service and new Easton Village Station.

No new electrical infrastructure construction (overhead catenary system and traction power facilities) would be needed. This reduces the overall visual impact of the Whittenton Diesel Alternative as compared to the Whittenton Electric Alternative.

Table 4.5-4 Summary of Potential Direct Effects to Visual and Aesthetic Resources from the Whittenton Diesel Alternative

Element/Component	Change in Visual Environment	Visual Impact
Railroad Alignments		
Northeast Corridor	No new construction	None
Stoughton Line	Track and crossing upgrades in active, disturbed environment and new track, trestle, and crossing construction in out-of-service railroad corridor, including urban and rural settings	Moderate to Substantial
Whittenton Branch	New track and crossing construction in out-of-service railroad corridor, including urban and rural settings	Moderate
Attleboro Secondary	Track and crossing upgrades in active, disturbed environment including rural and urban settings	Minimal
Fall River Secondary	Track and crossing upgrades in active, disturbed environment including rural and urban settings, and one crossing of a designated “Wild and Scenic River”	Minimal
New Bedford Main Line	Track and crossing upgrades in active, disturbed environment including rural and urban settings	Minimal
Stations		
Canton Center	Station reconstruction in developed area	Minimal
Stoughton	New station construction in developed area	Minimal
North Easton	New station construction in partially developed/ undeveloped area	Minimal
Easton Village	New station construction in partially developed/ undeveloped area	Substantial
Raynham Park	New station construction in developed area	Minimal
Dana Street	New station construction in developed area	Minimal
Taunton Depot	New station construction in partially developed/ undeveloped area	Minimal
Freetown	New station construction in partially developed/ undeveloped area	Minimal
Fall River Depot	New station construction in developed area	Moderate (beneficial)
Battleship Cove	New station construction in developed area	Minimal
King’s Highway	New station construction in developed area	Minimal
Whale’s Tooth	New station construction in developed area	Minimal
Layover Facility Alternatives		
Wamsutta Site	New facility construction in developed area	Minimal
Weaver’s Cove East Site	New facility construction in partially developed area, including designated “Wild and Scenic River”	Moderate

4.5.4.5 Summary of Impacts

The overall impacts to visual and aesthetic resources resulting from improving or constructing the Build Alternatives would not vary considerably between the alternative alignments. Although all alternatives are rated with an overall moderate visual impact, each alternative alignment has at least one element with a substantial visual impact at the local level. The Stoughton and Whittenton Alternatives would substantially impact the visual environment at the historic Easton train station and in currently out-of-service segments of the Stoughton Line and Whittenton Branch for some 15 miles. Public views of the proposed 1.6-mile trestle would be limited throughout the Hockomock Swamp wildlife management area and will have a visual impact; however there is limited public access to this area. Electric alternatives would have higher visual impacts than diesel alternatives due to the electrical infrastructure requirements.

4.5.5 Mitigation

4.5.5.1 Introduction

This section summarizes the mitigation measures that may be taken to minimize the visual impact resulting from the South Coast Rail project alternatives.

4.5.5.2 Potential Mitigation Measures

Generally, mitigation is appropriate where facilities are most visible and present a change to the existing visual environment, but are not outweighed by safety considerations. Mitigating impacts to the visual environment generally involves screening a facility or structure, or blending its design with the surrounding environment.

The project has the potential to alter the aesthetics of certain properties and districts where new stations, parking lots, or crossings are proposed. While the original construction of any of the railroads in the mid-1800s may have been consistent with the aesthetic nature of the communities at that time, reactivating the rail lines using modern materials and safety standards may result in undesirable changes in the visual environment. Screening certain structures and safety and signal equipment may mitigate these impacts. Potential screening techniques include the combination of wooden and opaque chain link fencing with landscape plantings.

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. 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 Table 4.5-5 and the following subsections outline these approaches for each element of the alternatives.

Table 4.5-5 Proposed Mitigation Measures for Potential Impacts to Visual and Aesthetic Resources

Potential Mitigation Measure	Implementation Schedule
Install screening in selected locations	During construction
Select station lighting fixtures, designs, and technologies that minimize night sky impacts	During design
Install station lighting that minimizes night-sky impacts	During construction
Design facilities and structures to blend with the surrounding landscape	During design

Screening

Facilities or structures may be screened from view by natural or man-made barriers. Typically, the choice of a screening method is based upon the surrounding environment: natural visual barriers, such as vegetation screens, are best suited to natural environments. Physical placement of the facilities, removed from view by the majority of the general public, can also function as a form of screening. Man-made barriers, such as walls or fences, function well in a built environment. Vegetation may also be suitable within the built environment if the surrounding properties include landscaping elements.

Unnecessary clear-cutting of trees and vegetation along the railroad rights-of-way that would have an adverse visual impact on residential properties or open spaces would be avoided. Existing trees and

vegetative screening would be retained to visually buffer properties from the rail lines to the extent feasible and with due regard for public safety, operational requirements, cost, and maintenance considerations.

Screening is most applicable for facilities with a vertical component, such as stations and electrical infrastructure, as compared to the railroad track itself. Although the stations must be placed along the railroad or highway alignments, their locations along those alignments have often been chosen to minimize the visual impact by siting behind existing structures or remote from passers-by. Remote locations for traction power facilities have similarly been chosen, and these facilities can be further screened from passengers' view by vegetation or other screening. The overhead catenary systems, however, cannot be screened from view except by the unrelated routing of the railroad line in remote locations.

Design

Facilities or structures may also be designed to blend with the surrounding visual environment. This can be accomplished by designing architecturally consistent or unobtrusive structures. For example, the proposed replacement bridges over segments of the Taunton River that are designated as "scenic" or "recreational" river areas are envisioned as architecturally consistent with the existing bridges and visual environment. Station platforms and weather shelters, on the other hand, are unobtrusive structures that fit well in most built environments. Facilities proposed for industrial locations, such as the Wamsutta and Church Street site layover facilities, would blend well with the surrounding visual environment due to the appearance of the nearby industrial facilities.

Where prudent, equipment including traffic signals and controller cabinets, street lights, street furniture, overhead catenary system poles, and railroad signal equipment housings would be dark colored to reduce the visual impact of this equipment. Special design of a low visual impact overhead catenary system would be considered where appropriate. Traffic signals and street lights would be ornamental type in accordance with the towns' preferences to the extent reasonably possible, and would feature downward-facing hoods to minimize light pollution.

4.5.5.3 Summary

Screening and design methods could successfully reduce and mitigate some potential visual impacts to properties associated with the reactivation of any of the historic railroads for the South Coast Rail project. Impacts would be minimized by siting the power substations and stations where they would reduce changes to the visual landscape, and lighting has been selected to minimize night-sky impacts. However, visual impacts cannot be completely avoided for any alternative.

Additional mitigation measures will be explored in the final design, for the LEDPA.

4.5.6 Regulatory Compliance

This section outlines the regulatory compliance requirements for visual and aesthetic resources. These resources are indirectly regulated at the federal or state levels, and are usually considered in NEPA or MEPA analyses. Compliance with the National Historic Preservation Act typically includes assessment of the visual context of a cultural resource, as discussed separately in Chapter 4.8, *Cultural Resources*. The only other applicable federal law with specific reference to visual resources is the Wild and Scenic Rivers Act. As discussed in the section on the Southern Triangle, the Taunton River was recently included in the Wild and Scenic River Program.

4.5.6.1 Wild and Scenic Rivers Act

Section 2(b) of the 1968 Wild & Scenic Rivers Act specifies that river segments may be classified, designated, and administered as wild river areas, scenic river areas, or recreational river areas. These determinations are based essentially on the degree of naturalness and access to the river. The Act is administered by the U.S. Department of the Interior (USDOI National Park Service), except on U.S. Department of Agriculture (USDA) Forest Service properties, which are administered by the Forest Service. The National Park Service administers the Wild and Scenic River Program generally, and the Forest Service administers the program within properties managed by that agency. The National Park Service refers to Forest Service regulations, published in 36 CFR, to implement the Act and is the lead agency for this program as it relates to the South Coast Rail project's potential impacts to visual resources along the Taunton River. On March 30, 2009, segments of the Taunton River were designated as "scenic" or "recreational" river areas under the Wild and Scenic Rivers Act; on that date, the segment along the Fall River Secondary and the segment through Taunton from Weir Street to Route 24 were designated as a "recreational river area," which is defined by the Act as a segment with a partially developed shoreline and ready access.

Consultation

USDA implementing regulations, at 36 CFR 297.4, state that "[n]o license, permit, or other authorization can be issued for a Federally assisted water resources project on any portion of a Wild and Scenic River or Study River nor can appropriations be requested to begin construction of such projects, without prior notice to the Secretary of Agriculture, and a determination in accordance with section 7 of the Act."

Additionally, "[f]ederal assistance means... a license, permit, or other authorization granted by the ACOE pursuant to the Rivers and Harbors Act and section 404 of the Clean Water Act" (36 CFR 297.3).

Finally, "[t]he Secretary of Agriculture will consent to the issuance of any Federal license, permit, or other authorization if, as a finding of fact, it is determined that: (1) the water resources project will not have a direct and adverse effect on the values for which a Wild and Scenic River or Study River was designated, when any portion of the project is within the boundaries of said river, or; (2) the effects of the water resources project will neither invade nor unreasonably diminish the scenic, recreational, and fish or wildlife values of a Wild and Scenic River, when any portion of the project is located above, below, or outside the Wild and Scenic River... if consent is denied, the Secretary may recommend measure to eliminate adverse effects, and the authorizing agencies may submit revised plans for consideration" (36 CFR 297.5).

A Clean Water Act Section 404 permit is required for discharge of fill material incidental to bridge construction if the piers, supports or other infrastructure for such bridge are proposed to be placed in waters of the United States. These conditions apply to construction of replacement bridges over the Taunton River and the layover facilities adjacent to the river, which therefore would require a Clean Water Act Section 404 permit. Consultation with the National Park Service would be necessary to obtain the Secretary of Agriculture's concurrence that the effects of the South Coast Rail project on the recreational values of the Taunton River would be neither invaded nor unreasonably diminished.

The following sections summarize the applicability of this consultation requirement for each South Coast Rail alternative.

Stoughton Alternatives

The Stoughton Alternatives also include the New Bedford Main Line, which crosses the Taunton River just south of Weir Junction. The Stoughton Line also crosses the Taunton River at three locations north of Weir Junction, as well as a tributary to the Taunton River (the Mill River) within 0.25 mile of the Taunton River's main stem. Bridge replacement at all of these locations, as described in the Southern Triangle and Stoughton Electric Alternative sections, would affect the visual environment of the Taunton River as regulated by the National Park Service under the Wild and Scenic Rivers Act. The layover facility site along the Fall River Secondary (Weaver's Cove East) also would affect the visual environment of the Taunton River. The National Park Service was contacted for consultation. A meeting between MassDOT and representatives from the NPS Wild and Scenic Rivers Program was held in January 2012 to discuss the status of Taunton River as a National Wild and Scenic River. Detailed descriptions of the South Coast Rail project's potential impacts to the Taunton River from the proposed bridge replacement and Fall River Depot Station were requested. These are described above in Section 4.5.3.3 in the context of visual resources, and are also summarized in Chapter 4.10, *Open Space*. This chapter also provides information regarding the layover facility along the Fall River Secondary. Further consultation with NPS is anticipated as the project advances through the design process.

Whittenton Alternatives

The Whittenton Alternatives also include the New Bedford Main Line, which crosses the Taunton River just south of Weir Junction. These alternatives, however, follow the Attleboro Secondary for a brief distance north of Weir Junction, bypassing the Taunton River crossings of the Stoughton Alternatives. Bridge replacement at the single New Bedford Main Line crossing (described in the Southern Triangle section) would affect the visual environment of the Taunton River as regulated by the National Park Service under the Wild and Scenic Rivers Act. The Weaver's Cover East layover facility site along the Fall River Secondary also would affect the visual environment of the Taunton River. The National Park Service has been contacted for consultation as described above for the Stoughton Alternative.