

# **APPENDIX F: ENVIRONMENTAL RATING OF ALTERNATIVES MEMORANDUM**

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## MEMORANDUM

**To:** Elizabeth Federico, Parsons      **Project:** P663.01/Waterbury-New Canaan Branch Line Study  
**From:** Laurel Stegina, FHI              **Date:** February 12, 2010; updated to reflect final build alternatives in May 2010  
**Subject:** Environmental Rating of Alternatives

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The purpose of this memorandum is to supplement and explain the environmental ratings assigned to each alternative identified in the *Waterbury and New Canaan Branch Lines Needs and Deficiencies Study – Short List Report* (January 2010) and listed in the attached Waterbury and New Canaan rating matrices. The ratings assigned were based on the professional judgment of the analyst using the following criteria:

- 5=Benefits/protects environmental and community resources
- 4=No impacts to environmental and community resources
- 3=Some negative impacts that would be able to be mitigated
- 2=Negative impacts that would delay project or compromise implementation
- 1=Requires significant unmitigatable impact to environmental and community resources

The alternatives were evaluated to see what, if any, impacts there would be on the resources listed below, and an overall rating was formed for each alternative.

- Air Quality
- Aesthetic/Visual Setting
- Coastal Resources
- Cultural and Historic Resources
- Environmental Justice and Compliance with Title VI
- Environmental Risk Sites
- Floodplains
- Land Use
- Noise Sensitive Areas
- Prime Farmland Soils and Soils of Statewide Importance
- Public Water Supply Reservoirs
- Section 4(f) and Section 6(f) Lands
- Surface and Ground Water Resources
- Threatened & Endangered Species
- Wetlands

In addition to aerial images, the most up-to-date Geographic Information Systems (GIS) data from the Connecticut Department of Environmental Protection (CTDEP), Natural Resources Conservation Service (NRCS), and National Oceanic and Atmospheric Administration (NOAA) was mapped for use in the evaluation process. Where adverse impacts to these resources were identified using the maps and footprints of the alternatives, the degree or severity of the impact was estimated and incorporated into the overall rating. For each of the alternatives briefly described on the following pages, a “+” symbol in the “Impacts” column in the summary tables indicates a beneficial impact to the resource, while a “-“ indicates an adverse impact. It should be noted that any project with a footprint (i.e., for a parking facility or kiss and ride facility) including those that require construction along the railroad tracks (i.e., passing sidings) will need to be further investigated by a certified soil scientist for potential wetlands that do not appear on the GIS maps.

***Waterbury Branch Line***

**No Build Alternative**

*Ranking:* 3

*Description:* A continuance of existing conditions. Therefore, no mitigation is necessary. The No Build Alternative would neither increase transit capacity nor result in a modal shift from vehicle to transit trips, resulting in a potential negative impact on air quality if existing demographic and travel demand trends continue. There are no anticipated beneficial impacts to any resources.

**Transportation Systems Management (W-23 Shuttle Bus)**

*Ranking:* 5

*Description:* Optimize use of existing facilities by upgrading existing transit services and establishing bus lanes on existing highways. Supplement commuter rail service with shuttle bus service.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	Increase in transit capacity could positively impact air quality.

**W-1 Increased Train Length (Includes High-Level Platforms)**

*Ranking:* 3

*Description:* Maintain the existing service schedule, rolling stock, and trackage, but increase the train length (passenger train carrying capacity) from 4 cars to 6 or 8 cars; includes platform improvements.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Aesthetic/Visual Setting	-	Extended platforms may have minor visual impacts on neighboring land uses. Incorporate visual buffer, such as landscaping, into project design to avoid impacts.
Air quality	+	Increase in transit capacity could positively impact air quality.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Cultural and historic resources	–	Improvements are proposed within the area of potential impact of a historic resource. Coordination with State Historic Preservation Office (SHPO) will be required.
Threatened & Endangered Species	–	Waterbury Station is located within a CTDEP Natural Diversity Database (NDDDB) Area. Coordination with the CTDEP is required for platform improvements.

### **W-3 Full Signalization**

*Ranking:* 3

*Description:* Implement a Centralized Traffic Control (CTC) system along the entire branch, which would allow 2 trains heading in the same direction to operate on the branch at the same time. Although a concept showing footprint for utility poles, signals, switches, etc., for the CTC is not yet available, it is anticipated that there may be some mitigatable adverse impacts.

### **W-10 Beacon Falls Siding**

*Ranking:* 2

*Description:* Full signalization, plus one passing siding north or south of Beacon Falls Station.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	No mitigation is necessary
Floodplain	–	Construction of passing siding will require work within the 100-year floodplain associated with Spruce Brook. Further environmental study and environmental permits will be required.
Environmental risk sites	–	There is CTDEP leachate/wastewater discharge point is in close proximity to the passing siding. Further environmental investigations will be required.
Surface water	–	Passing sidings will involve crossing of Spruce Brook in Naugatuck State Forest with potential impacts to the watercourse. Further environmental study and environmental permits will be required.
Threatened & Endangered Species	–	Passing sidings are proposed within a CTDEP NDDDB Area. Coordination with the CTDEP will be required.
Wetlands	–	It is assumed that the crossing of Spruce Brook will need to be widened in order to accommodate the passing siding. Field investigation for wetlands by a certified soil scientist will be required. If wetlands are present, then wetland delineation and coordination with regulatory agencies will be required.

**W-11 Four Passing Sidings**

*Ranking: 2*

*Description:* Full signalization, plus four passing sidings (from Devon wye continuing 2 miles north; north of Derby-Shelton Station from Station 74+640 to 782+261; north (or south) of Beacon Falls Station; and from Waterbury Station continuing 2 miles south.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	Increase in transit capacity could positively impact air quality.
Floodplain	-	Construction of passing siding will require work within the 100-year floodplain. Further environmental study and environmental permits will be required.
Environmental risk sites	-	There are numerous environmental risk sites in close proximity to where the passing sidings are proposed. Further environmental investigations will be required.
Surface water	-	Passing sidings will involve crossing of the Naugatuck River in Waterbury and Spruce Brook in Naugatuck State Forest with potential impacts to these watercourses. Further environmental study and environmental permits will be required.
Threatened & Endangered Species	-	Passing sidings (Devon wye, Beacon Falls, Waterbury) are proposed within CTDEP NDDB Areas. Coordination with the CTDEP will be required.
Wetlands	-	It is assumed that the railroad track crossings over the Naugatuck River in Waterbury and Spruce Brook will need to be widened in order to accommodate the passing siding. Field investigation for wetlands by a certified soil scientist will be required. If wetlands are present, then wetland delineation and coordination with regulatory agencies will be required.

**W-13 Devon Alternative 2 (Includes 3 Passing Sidings)**

*Ranking: 2*

*Description:* Full signalization, three passing sidings, and installation of a two-platform station on the New Haven Line just east of the Devon wye.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Aesthetic/Visual Setting	-	Platforms may have minor visual impacts on neighboring land uses. Incorporate visual buffer, such as landscaping, into project design to avoid

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
		impacts.
Air quality	+	Increase in transit capacity could positively impact air quality.
Floodplain	–	Construction of passing siding will require work within the 100-year floodplain. Further environmental study and environmental permits will be required.
Environmental risk sites	–	There are numerous environmental risk sites in close proximity to where the passing sidings are proposed. Further environmental investigations will be required.
Surface water	–	<p>Passing sidings will involve crossing of the Naugatuck River in Waterbury and Spruce Brook in Naugatuck State Forest with potential impacts to these watercourses. Further environmental study and environmental permits will be required.</p> <p>Installation of kiss and ride area will increase impervious surface, potentially contributing to adverse impacts to water quality. Incorporate best management practices for stormwater into project design.</p>
Threatened & Endangered Species	–	Passing sidings (Devon wye, Beacon Falls, Waterbury) are proposed within CTDEP Natural Diversity Database Areas. Coordination with the CTDEP will be required.
Wetlands	–	It is assumed that the railroad track crossings over the Naugatuck River and Spruce Brook will need to be widened in order to accommodate the passing siding. Field investigation for wetlands by a certified soil scientist will be required. If wetlands are present, then wetland delineation and coordination with regulatory agencies will be required.

### **W-15 Derby Shelton Multi-Modal Alternative 1**

*Ranking:* 3

*Description:* Replace existing boarding area with 680-foot high-level platform, and maintain single track through Derby-Shelton Station.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Environmental risk sites	–	Options that utilize Valley Transit District property for additional parking require removal of an underground fuel tank. Further environmental study will be required.

### **W-18 Waterbury Multi-Modal Station (Includes 5 Storage Tracks)**

*Ranking:* 2

*Description:* Add two bus bays and expand parking to enhance transfers between rail, bus, and automobile; lengthen existing high-level platform to 680 feet; plus, add five storage tracks west of Waterbury Station.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	Increase in transit capacity could positively impact air quality.
Cultural and historic resources	-	Improvements are proposed within the area of potential impact of a historic resource. Coordination with State Historic Preservation Office will be required.
Environmental risk sites	-	Hazardous environmental risks are associated with the heavily developed industrial sites surrounding Waterbury Station. Further environmental investigations will be required.
Threatened & Endangered Species	-	Storage tracks and other improvements are proposed within CTDEP Natural Diversity Database Areas. Coordination with the CTDEP will be required.

### **W-19 Relocated Naugatuck Platform**

*Ranking:* 3

*Description:* Replace existing platform with new elevated station above Maple Street / Water Street intersection (680-foot high level platform).

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Aesthetic/Visual Setting	-	Platforms may have minor visual impacts on neighboring residential and other land uses. Design project to be consistent with surrounding architecture to avoid impacts.

### **W-22 Express Bus**

*Ranking:* 3

*Description:* Replace commuter rail service with express bus service. This alternative would decrease transit capacity in the corridor, resulting in a potential negative impact on air quality.

### ***New Canaan Branch Line***

### **No Build Alternative**

*Ranking:* 3

*Description:* A continuance of existing conditions. The No Build Alternative would neither increase transit capacity nor result in a modal shift from vehicle to transit trips, resulting in a potential negative impact on air quality if existing demographic and travel demand trends continue. There are no anticipated beneficial impacts to any resources.

**NC-1 Springdale Siding**

*Ranking: 5*

*Description: Construct a 4,000-foot passing siding near Springdale Station.*

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	Increase in transit capacity could positively impact air quality.

**NC-2 Full Signalization**

*Ranking: 3*

*Description: Extend the Centralized Traffic Control (CTC) system all the way to New Canaan Station, which would allow 2 trains heading in the same direction to operate on the branch at the same time. Although a concept showing footprint for utility poles, signals, switches, etc., for the CTC is not yet available, it is anticipated that there may be some mitigatable adverse impacts.*

**NC-5 Full Signalization + Siding + 2<sup>nd</sup> Platform at Springdale**

*Ranking: 5*

*Description: Extend CTC system all the way to New Canaan Station, construct 4,000-foot passing siding near Springdale Station, and add second platform at Springdale Station.*

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Air quality	+	Increase in transit capacity could positively impact air quality.

**NC-13 Springdale Station Platform Extension**

**NC-14 Talmadge Hill Station Pedestrian/Parking/Platform Improvements**

**NC-15 New Canaan Station Platform Extension**

*Ranking: 3*

*Description: Extend the existing high-level Springdale platform on the west side of the track from its current 360 feet to 680 feet to accommodate longer trains.*

Add second side platform at Talmadge Hill and expand parking capacity by adding surface or structured parking on the site of the former commuter parking lot along Old Stamford Road. Re-stripe or structure existing parking. Add pedestrian facilities within station area and at Talmadge Hill Road/Old Stamford Road intersection.

Extend the existing high-level platform at New Canaan Station on the north/west side of the track to 680 feet to accommodate longer trains.

<i>Resource</i>	<i>Impacts</i>	<i>Comments</i>
Aesthetic/Visual Setting	–	New Talmadge Hill platform may have minor visual impacts on neighboring land uses (i.e., users of adjacent recreational lands and travelers on the historic Merritt Parkway). Maintain existing visual buffers, such as stands of trees, to avoid impacts.
Air quality	+	Increase in transit capacity could positively impact air quality.
Prime Farmland Soils and Soils of Statewide Importance	–	Improvements including expansion of surface parking may impact prime farmland soils. Additional environmental study may be required.
Surface water	–	Addition of paved surface or structured parking lots and sidewalks at Talmadge Hill would increase impervious surface, potentially contributing to adverse impacts to water quality. Incorporate into project best practices for stormwater management to avoid impacts.
Wetlands	–	Improvements including expansion of paved parking at Talmadge Hill may impact state and federal wetlands. Field investigation for wetlands by a certified soil scientist will be required. If wetlands are present, then wetland delineation and coordination with regulatory agencies will be required.