3

Existing Environmental Conditions

This chapter documents community, natural, and cultural resources that exist within the project limits of the Route 8 Deficiencies / Needs Study. This inventory was based primarily on information in the statewide GIS database (2008), maintained by the Connecticut Department of Environmental Protection (CTDEP), and direct consultation with state resource agencies and study area municipalities. In addition, aerial photography, existing online databases, U.S. Census 2000 data, and various land use, conservation, and development plans were consulted. Limited windshield surveys were conducted to field-verify the location and extent of key resources.

The environmental resources inventory is used by transportation engineers and planners to:

- Identify potential "fatal flaws" to the development of the transportation safety and operational improvement alternatives;
- Identify factors that may affect costs associated with improvements; and,
- Identify potential regulatory and permitting issues associated with implementing the recommended improvement alternatives.

To provide a foundation for decision making, environmental constraints mapping was developed for the Route 8 study area, extending from Interchange 22 in Seymour north to Interchange 30 in Waterbury. The width of the study area is 1,000 feet along the Route 8 mainline, comprised of 500 feet on each side of the Route 8 centerline. At each interchange, the study area was expanded to encompass the land area extending out 500 feet from the ramp termini. For instance, this is particularly noticeable at Interchange 24, where the ramp termini are located several hundred feet to the east of the mainline. Please refer to Technical Memorandum #1 for more detail on the environmental constraints mapping.

The following sections discuss community, natural and cultural resource constraints that could potentially affect the feasibility and development of proposed improvement alternatives. Topics covered herein include the following: sensitive noise receptors; community planning, land use, and municipal facilities; wetlands and surface water resources; floodplains and stream channel encroachment lines;

groundwater resources; endangered species; farmland soils; cultural resources; Section 4(f) and 6(f) properties; hazardous materials; and population and employment characteristics with a focus on environmental justice populations. Within each section, a general description of the location and extent of resources within the study area is provided, along with an overview of regulatory constraints associated with those resources. While specific details of the improvement alternatives are not yet known, the regulatory framework helps identify potential limitations, permitting activities, and other potential constraints associated with the intended improvements.

3.1 Community Resources

This section provides an overview of community resources within the study area, including sensitive noise receptors, land uses, public facilities, and community planning.

3.1.1 Sensitive Noise Receptors

The Federal Highway Administration's (FHWA) Noise Abatement Criteria (NAC) documented in 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, are based on Land Use Activity Categories. Land uses considered most sensitive to highway noise are designated as either Land Use Activity Category A or B. Category A includes important public lands on which serenity and quiet are of extraordinary significance for their intended purpose. These lands include outdoor amphitheatres, concert pavilions, and National Historic Landmarks with significant outdoor use. Land Use Activity Category B includes picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. By identifying the location of Category A and Category B land uses during the early stages of a corridor planning study, measures can be taken to effectively avoid and/or minimize potential noise impacts attributed to highway improvements.

Based on a review of GIS data, aerial photography, and limited windshield surveys, there are no Category A noise-sensitive land uses within 500 feet of the Route 8 corridor and ramp termini. However, Category B land uses are abundant, and include recreational areas/parks, churches, schools and a number of residential clusters. Noise sensitive land uses within the study area are listed in Table 3-1 by municipality, from south (Seymour) to north (Waterbury).

Table 3-1
Noise Sensitive Receptors within the Route 8 Study Area

Community	Map ID*	Type of Receptor	Description	FHWA Land Use Category
Seymour	N2	Municipal Park	Champions Park located east of Route 8 and just north of the Bank Street Bridge over the Naugatuck Rover	B
Seymour	N3	Residential Cluster	Located east of Route 8 in the vicinity of Interchange 22 defined by several streets including Humphrey Street, Washington Avenue, and Grand Street among others.	B
Seymour	N4	Municipal Park	French Memorial Park located east of Route 8 in the vicinity of Interchange 22.	B
Seymour	N5	Residential Cluster	Located east of Route 8 and north of Route 67 and defined by Meadow Street, Garden Street and Nichols Street.	B
Seymour	N6	Residential Cluster	Located east of Route 8 and just south of Beacon Falls town line. Defined by Lakeview Avenue.	B
Beacon Falls	N7	Residential Cluster	Mobile home park located west of Route 8 and just north of the Seymour town line.	B
Beacon Falls	N8	Residential Cluster	Small group of residences located east of Route 8 just south of Interchange 23 along Old Turnpike Road.	B
Beacon Falls	N9	Residential Cluster	Located west of Route 8 in the vicinity of Interchange 23. Defined by Hopewell Avenue.	B
Beacon Falls	N10	Residential Cluster	Located east of Route 8 along Gruber Road and Lopus Road.	B
Beacon Falls	N11	Residential Cluster	Located east of Route 8 at the easternmost periphery of the study area. Residences along Railroad Avenue and between Railroad Avenue and the Naugatuck River to the east.	B
Beacon Falls	N12	Church	United Church, located east of Route 8 near the Interchange 24 ramp termini.	B
Beacon Falls	N13	Church	Saint Michaels Roman Catholic Church, located east of Route 8 near the Interchange 24 ramp termini.	B
Beacon Falls	N14	Residential Cluster	Located east of Route 8 near the Interchange 24 ramp termini. Residential area is defined by Wolfe Street, Church Street, and Highland Avenue.	B

* Refer to Technical Memorandum #1, Figure 3-1 (Sheets 1 through 5)

Table 3-1 (Con'd.)
Noise Sensitive Receptors within the Route 8 Study Area

Community	Map ID*	Type of Receptor	Description	FHWA Land Use Category
Beacon Falls	N15	Residential Cluster	Located east of Route 8 and just south of the Naugatuck town line. Defined by Andrasko Road.	B
Beacon Falls	N25	Library	Beacon Falls Library located east of Route 8 near the Interchange 24 ramp termini.	B
Beacon Falls	N28	School	Laurel Ledge School, located northeast of the Route 8 Interchange 24 ramp termini along Highland Avenue.	B
Naugatuck	N16	Municipal Park	Rotary Fields located west of Route 8 at Interchange 26.	B
Naugatuck	N17	School	Central Avenue School located east of Route 8 near Interchange 26.	B
Naugatuck	N18	Residential Cluster	Large residential area along the east side of Route 8 in the vicinity of Interchange 26. Defined by a number of streets including Oak Street, High Street, and Central Street among others.	B
Naugatuck	N19	Residential Cluster	Located east of Route 8 near Interchange 28 and south of the Prospect Street Bridge over the Naugatuck River. Defined by City Hill Court, North Main Street and Curtiss Street.	B
Naugatuck	N20	Church	Saint Mary's Church, located east of Route 8 and south of the Prospect Street Bridge over the Naugatuck River.	B
Naugatuck	N21	School	Saint Hedwig School, located east of Route 8 and north of the Prospect Street Bridge over the Naugatuck River.	B
Naugatuck	N22	Residential Cluster	Located east of Route 8 and north of Prospect Street. Defined by North Main Street, Golden Street and Woodbine Street among others.	B
Naugatuck	N23	Residential Cluster	Located west of Route 8 at Interchange 29. Defined by Platts Mills Road among other streets.	B
Waterbury	N24	Motel	Motel located east of Route 8 near Interchange 29 on the corner of Platts Mills Road and South Main Street.	B
Waterbury	N26	Residential Cluster	Expansive residential area located west of Route 8 in the vicinity of Interchange 30.	B
Waterbury	N27	Church	United Brethren in Christ Church, located west of Route 8 near Interchange 30 along Bank Street.	B
Waterbury	N29	Church	Iglesio De Dios, located west of Route 8 near Interchange 30 along Bank Street.	B
Waterbury	N30	Church	Saint Joseph Church, located west of Route 8 near Interchange 30.	B
Waterbury	N31	School	Saint Joseph School, located west of Route 8 near Interchange 30.	B
Waterbury	N32	Residential Cluster	Located west of Route 8 at Interchange 30. Defined by Summit Street and Riverside Street.	B

1 Refer to Technical Memorandum #1, Figure 3-1 (Sheets 1 through 5)

3.1.2 Land Use, Community Planning and Municipal Facilities

This discussion provides an overview of land use patterns and zoning within the study area as well as key land uses which may be sensitive to project impacts. Those sensitive land uses include cohesive communities and neighborhoods, public safety facilities such as police stations, and community institutions such as schools.

Existing Land Use

Generalized land uses in the study area were also mapped early in the study process (see Technical Memorandum #1). In addition to Route 8 right-of-way (ROW) which is owned by CTDOT, the largest property in the study area is the publicly owned Naugatuck State Forest (State of Connecticut). Other properties are predominantly in private ownership. A brief overview of the land uses encountered along the Route 8 corridor is provided in the following paragraphs.

Corridor Overview – Communities in the Naugatuck Valley have a long history as manufacturing-based economies. Compact communities often formed near factories and these population centers are still interspersed today with large undeveloped tracts and low-density rural development. Within the study area communities, there are numerous industrial sites along the banks of the Naugatuck River which closely parallels Route 8. In Seymour, Beacon Falls, and Naugatuck, the town center or downtown are situated along the river and either adjacent to, or bisected by Route 8. Much of the land in the study area located in between the town centers and their residential edges is undeveloped. These areas have either very steep topography or are preserved open space as part of the Naugatuck State Forest.

Seymour – The study area in Seymour encompasses most of the downtown on the east side of Route 8 and a commercial/retail cluster on the west side of Route 8. It is an area of mixed, mostly nonresidential, uses common to small downtowns. Interchange 22 is elevated through most of Seymour. It is a split interchange; the southern off-ramps meet downtown in a mixed commercial/industrial area adjacent to the historic town center and the northbound on-ramp abuts a park and residential neighborhood near the northeastern downtown edge. Traveling northward in the corridor in Seymour, the land on either side of Route 8 is undeveloped. It is privately owned and characterized by cliffs and the Naugatuck River.

Beacon Falls – The land on the east side of Route 8 between the southern Beacon Falls town line and Interchange 23 is undeveloped with very steep topography. Between the river and the western side of Route 8, there is a mobile home park. In the immediate vicinity of Interchange 23 is a cluster of commercial uses and a ballfield complex. North of Interchange 23, the Route 8 corridor traverses a large area of sand and gravel mining. Yet, in this same area, the western edge of the study area along Lopus Road Extension has some sparsely spaced homes and one active farm. Interchange 24 in Beacon Falls is situated at the northern edge of the

downtown. It is an area of automotive and other heavy commercial uses as well as a public safety complex.

Naugatuck – Interchange 25 is a split interchange. The southerly on-ramp for Route 8 northbound abuts two large cemeteries. To the south of the northbound off-ramp in this same locale, the Naugatuck State Forest and a segment of Connecticut Blue-Blaze trail are on the eastern side of Route 8. The Naugatuck River forms the western side of the corridor in this area. At Interchange 26, the Naugatuck Borough center is just west of the Naugatuck River and Route 8.

The east side of the river and Route 8 in Naugatuck, near Interchange 26, is mostly residential with some limited commercial activity. There are recreational fields present (Rotary Fields) between the river and the highway. Interchanges 27 and 28 are similarly situated in mixed-use, predominantly residential neighborhoods. The common pattern is arterial streets with commercial/retail development, surrounded by clusters of homes on the collector or local roads. This area is one of transition into a more urban pattern of development characteristic of the City of Waterbury to the north.

Waterbury – Land uses along Route 8 in southern Waterbury reflect a historic pattern of prior industrial activity which has changed over time into a mix of land uses including neighborhood commercial and residential, and underdeveloped space. Interchange 29 is situated at the municipal line between Naugatuck and Waterbury. It is adjacent to a residential neighborhood to the west and sparse commercial development to the east. Interchange 30 is another split interchange, interfacing with mostly heavy commercial activity at the southern ramps and neighborhood-scale commercial uses mixed with residences at the northern ramps.

Zoning

While there is a wide range of specific municipal zoning designations in the study area, there are four broad categories of zoning which dominate the area, including industrial, business, residential, and state forest. Zoning in each of the study area communities is described below

Seymour – Zoning along the Route 8 corridor in Seymour is primarily residential and general business at varied allowable densities. The zoning map and regulations are in the process of being updated and correlated to one another. As such, a more in-depth description of the zoning pattern is not currently available.

Beacon Falls – Zoning along the Route 8 corridor in Beacon Falls is primarily B-1 for general business and industrial. Zones occurring along the corridor from south to north include:

- B-1 – General business
- I-PD – Planned industrial parks

- R-3– Multifamily residential (in one pocket north of Interchange 23)
- I-1 – General industrial
- R-1 – Single-family residential (limited to two districts south of Interchange 24 and west of the Naugatuck River)
- SF – State Forest

Naugatuck – Zoning along the Route 8 corridor in Naugatuck is primarily residential and industrial. Zones occurring along the corridor from south to north include:

- R-8 - Residential with minimum 8,000 square foot lot; requires public water and sewer service
- I-1 - Heavy industry
- I-2 - Light industry in lower intensity setting; does not generate nuisance level pollutants such as odors or noise
- B-2 – Business – General office and commercial on sites suitable for access by automobiles (motorist oriented); intended for commercial development on Naugatuck's arterial streets
- RA-1 – Residential – single to multifamily dwellings in areas served by water and sewer
- R-15 - Residential with minimum 15,000 square foot lot; requires public water and sewer service

Waterbury – Zoning along the Route 8 corridor in Waterbury is primarily industrial. The two industrial zones occurring along the corridor from south to north include:

- I-P – Planned industrial parks
- I-G – General industrial

There are also varied residential zones abutting these industrial zones and the study corridor including both low and high density residential. The City of Waterbury is currently proposing changes to its zoning within the study area. These changes will be monitored as the Route 8 study progresses.

Communities and Neighborhoods

Neighborhoods can be defined by formal designation or by the presence of a neighborhood organization. They can also be identified by residents' expressed sense of community cohesion, their sense of unification, "belonging", or closeness to a neighborhood or community. With the exception of one Waterbury neighborhood, there are no formal neighborhoods as designated by local governments within the

study area. Informal neighborhoods are known locally and/or with place-names within the study area in each community. Their boundaries are not formally determined, but generally follow the evident edges of concentrated housing and/or development. A description of each, by municipality, follows.

Seymour – There are two cohesive neighborhoods that fall wholly or partially within the study area in Seymour.

- The historic downtown is adjacent and west of the southern ramps of Interchange 22.
- The Garden City neighborhood surrounds the east side of French Memorial Park, adjacent to and east of the northern ramps of Interchange 22. Garden City contains primarily single-family residences on small lots, with many historic homes.

Beacon Falls –There are two neighborhoods in Beacon Falls within the study area. An unnamed mobile home park at the town's southern border forms its own small neighborhood. A portion of the western edge of the downtown neighborhood of Beacon Falls occurs within the study area.

Naugatuck – There are two neighborhoods extending into the study area in Naugatuck. The first, Downtown Naugatuck, is a historic and architecturally cohesive area situated along the west bank of the Naugatuck River and abuts the western edge of the study area. The second is Union City situated east of Route 8 and centered on North Main Street. It is also characterized by a cluster of historic structures.

Waterbury – There are two place-name neighborhoods within the study area in Waterbury. The Brooklyn neighborhood includes the historic St. Patrick's Church, St. Joseph's Church, Duggan School, Barnard School, and the historic Riverside Cemetery. While the neighborhood is extensive, the portions that fall within the study area are limited to the southeast corner of the Riverside Cemetery and the section between St. John's Street and Route 8. The Platts Mill neighborhood encompasses a residential area that extends from Waterbury into Naugatuck within the study area on the western side of Route 8.

Public Safety Facilities and Community Institutions

Public safety facilities and community institutions considered for this environmental screening include fire stations, ambulance/Emergency Medical Technician stations, police stations, town government buildings, schools, and libraries. Public safety facilities and community institutions within the study area in each of the corridor communities are listed in Table 3-2.

Table 3-2
Public Safety Facilities and Community Institutions
Located within the Study Area

Community	Map ID	Facility/Institution	Address
Seymour	CF1	Seymour Senior Center	20 Pine Street
	CF2	Seymour Board of Education	98 Bank Street
	CF3	Seymour Post Office	91 Main Street
	CF4	Seymour Fire Department	1 First Street
	CF5	Seymour Town Hall	1 First Street
Beacon Falls	CF6	Beacon Falls Fire Station	35 North Main Street
	CF7	Beacon Falls Post Office	101 North Main Street
	CF8	Beacon Falls Fire Marshall/State Trooper	119 North Main Street
	CF9	Laurel Ledge School	30 Highland Avenue
	CF10	Beacon Falls Library	10 Maple Avenue
Naugatuck	CF11	Naugatuck Post Office	170 Water Street
	CF12	Central Avenue School	28 Central Avenue
	CF13	Saint Hedwig School	32 Golden Hill Street
Waterbury	CF14	Saint Joseph School	46 Congress Avenue

3.1.3 Local, Regional and State Land Use Plans

The Route 8 study area traverses seven planning regions, namely the towns of Seymour, Beacon Falls, and Naugatuck, the City of Waterbury, the Valley Council of Governments (VCOG), the Council of Governments of the Central Naugatuck Valley (COGCNV) and the State of Connecticut. The plans formulated for each of these entities articulate a vision, goals, and objectives for future land use and/or the transportation system. Key relevant findings of policy contained in the respective long-range Plans of Conservation and Development (POCD) of these entities are summarized below.

Seymour – The *2002 Plan of Conservation and Development* for Seymour (Planimetrics, 2002) expresses the overall policies to:

- Preserve open space
- Protect natural resources
- Enhance economic development areas
- Maintain and enhance the community structure
- Maintain housing diversity

A notable component of the strategies for preserving open space is the goal of creating an overall greenbelt system linking preserved open spaces in the community. Development strategies of note include continuing to enhance the

downtown and avoiding strip development. Transportation issues are addressed as part of the chapter on infrastructure. In this chapter, the POCD calls for:

- Improving transit service
- Conducting an in-depth circulation network study
- Enhancing pedestrian and bicycle travel

The potential for future modifications to Route 8 are not mentioned in the plan.

Beacon Falls – The main issues raised by residents and addressed in the *Plan of Conservation and Development* for Beacon Falls (Planimetrics, 2002) include:

- Coordination of local activities
- Economic development
- Preservation of open space and natural resources
- Providing community facilities

The conservation plan for Beacon Falls shows a proposed "Open Space Greenway" that follows the Naugatuck River and crosses Route 8 in one locale. The goal is to provide a continuous greenbelt connecting the proposed Naugatuck River Greenway with the Naugatuck State Forest trails. Development strategies of note include potentially establishing a Village District to strengthen the character of the downtown and avoiding strip development. Transportation issues are addressed as part of the chapter on infrastructure. In this chapter the, POCD calls for:

- The construction of a full interchange on Route 8 to facilitate travel through the center of town and to access industrial parks
- Improving transit service
- Enhancing bicycle and pedestrian travel

Naugatuck – The POCD for the Borough of Naugatuck dates to 2001. Its policies, as articulated in the future land use plan, focus on:

- Natural and cultural resource preservation;
- Neighborhood conservation and renewal;
- Enhancing the downtown; and,
- Strategic economic development.

Transportation strategies to support the future land use plan are discussed in the circulation element, and include:

- Access management
- Correcting current deficiencies in the local roadway network
- Ensuring the roadway network serves all the travel needs in Naugatuck
- Developing a system of sidewalks

The potential for future modifications to Route 8 are not mentioned in the plan.

Waterbury – The *2005 City of Waterbury Plan of Conservation and Development* (Phillips Preiss Shapiro, 2005) is contained in two volumes. Volume 1 documents the vision, goals, and policy recommendations of the plan while Volume 2 is a community assessment update. The overall vision for the City focuses on the City's role and place in the region, neighborhood and community quality of life, and the "nuts and bolts of a city that works." As part of the detailed vision statement it states, "The City will pursue and support State and regional initiatives that impact the City and region, including studies for roadways, rail transport, etc."

Transportation goals and policies stated to support the overall vision include the following:

Goal: Improve the mobility of all of Waterbury's residents.

Policies:

- Improve all three dimensions of transit service: coverage, frequency, and facilities as the need for transit increases in the city.
- Coordinate all modes of transit: local bus, long-distance bus, and rail.
- Promote free circulation of traffic, but not at the expense of on-street parking in commercial corridors and pedestrian circulation.
- Partner with the CNV-COG to work closely with CTDOT to ensure that the City's needs are met when the I-84 and state highways are widened or reconfigured.
- Promote safe and convenient pedestrian and bicycle facilities in appropriate locations to meet existing and future demand.

VCOG – The VCOG Regional Plan of Conservation and Development was recently updated and completed in June, 2008. Key policy areas addressed in the plan include:

- Conserve important resources

- Encourage responsible growth
- Promote economic development
- Address transportation needs
- Address infrastructure
- Promote regional programs

The specific policies contained in the transportation plan component include the following:

- Improve Route 8
- Enhance transit service
- Make necessary improvements on major roadways
- Enhance pedestrian and bicycle transportation

The plan supports the improvement of traffic flow at the interchanges on Route 8 and includes strategies to:

1. *Promote efforts to obtain designation of Route 8 as a federal interstate, to improve highway design, condition, and funding.*
2. *Continue to work with CTDOT to obtain funding to implement the changes designed for Route 8 interchanges*.

COGCNV – The 2008 update to the COGCNV plan of conservation and development (*Regional Plan of Conservation & Development 2008*, COGCNV, June 2008) presents policies for future development in separate chapters organized by resource. The Transportation chapter states that future transportation planning in the region should emphasize maintaining and improving the existing transportation system rather than expanding with new construction. It notes that highways will remain the focal point of the transportation system, but the role of public transit and ridesharing should be enhanced. Greenways, bikeways, sidewalks, and pedestrian paths are expected to provide transportation connections between residential areas and high priority and scenic destinations. Specific policies for the highway system are as follows:

1. Monitor congestion within the region's highway network, and emphasize highway projects that will help address congested corridors in a timely manner.
2. Seek to improve safety and reduce traffic congestion, energy consumption, and motor vehicle emissions.
3. Encourage access management techniques along arterial roads to improve highway capacity and safety.

4. Encourage proper maintenance of the region's highways, including ongoing safety and pavement maintenance.
5. Continue the evaluation and maintenance of the region's bridges.
6. Support context-sensitive design for the region's highway system improvements.
7. Increase awareness of commuter parking locations along major commuter routes, and expand lots where needed.

State of Connecticut - The Connecticut Office of Policy and Management (OPM) *Conservation and Development Policies Plan for Connecticut (2005-2010)* (the C&D Plan) contains growth management, economic, environmental quality, and public service infrastructure guidelines and goals for the State of Connecticut. The overall strategy of the C&D Plan is to reinforce and conserve existing urban areas, to promote appropriate, sustainable development, and to preserve areas of significant environmental value.

The Locational Guide Map which accompanies the C&D Plan provides a geographical interpretation of the State's conservation and development policies. The map identifies the following land use designations and policies within the Route 8 study area:

- Neighborhood Conservation Area for the centers of Seymour, Beacon Falls and Naugatuck to maintain stable developed neighborhoods and communities;
- Growth Area between Seymour and Beacon Falls that concentrates new urban growth outside regional centers in areas capable of supporting large scale mixed-uses and densities;
- Existing Preserved Open Space for the Naugatuck State Forest; and,
- Regional Center for the Waterbury portion of the corridor that proposes to revitalize the economic, social, and physical environment of urban centers.

3.2 Natural Resources

This section provides an overview of natural resources within the study area, including surface water resources, wetlands, floodplains and stream channel encroachment lines, groundwater resources, endangered species, and farmlands.

3.2.1 Surface Water Resources

Water is not only critical to sustaining life, it is also essential for human activities. Rivers, streams, lakes and ponds are used for drinking water, irrigation, industrial process water, hydropower and recreation among other uses. For these and other reasons, local, state and federal laws protect surface water resources from actions

that could potentially degrade their overall quality and use. Table 3-3 provides a description of CTDEP surface water quality classifications and also identifies the designated uses associated with each classification.

The primary surface water feature in the study area is the Naugatuck River. The river flows in a southerly direction through the study area, draining into the Housatonic River at Derby. The Housatonic River, in turn, flows in a southerly direction until ultimately discharging into Long Island Sound between Milford and Stratford. According to the CTDEP Surface Water Quality Standards (December 17, 2002), the Naugatuck River within the study area is designated as a Class C resource.

The Route 8 corridor from Interchange 22 north to Interchange 30 is contained entirely with the Naugatuck River watershed and generally follows the course of the Naugatuck River within its narrow valley. Route 8 parallels the river on the east within Seymour and southern portions of Beacon Falls, then crosses the river twice over a short distance within Beacon Falls; one crossing occurs just north of Route 42 and the second crossing is just north of Lopus Road. The Route 8 corridor remains east and parallel to the river as it continues north through Naugatuck, and then crosses the river a final time within the study area at a location just north of Platts Mills Road in Waterbury. North of Platts Mills Road to Interchange 30, Route 8 parallels the river on the west.

Table 3-3
Connecticut Surface Water Quality Classifications

Class	Designated Uses	Description
AA	Existing or proposed drinking water supply, fish and wildlife habitat, recreational use (may be restricted,) agricultural and industrial supply. There is no SAA (marine) classification.	Water of highest quality based on water parameters and criteria established by the Connecticut WQS. Waters mapped as AA are known or presumed to meet water quality criteria which support designated AA uses.
A	Habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreational; navigation; and water supply for industry and agriculture. "SA" (marine) uses do not include potential drinking water supplies but do include shellfish harvesting for direct human consumption.	Water of high quality based on water parameters and criteria established by the Connecticut WQS. Waters mapped as A are known or presumed to meet water quality criteria which support designated A uses.
B	Habitat for fish and other aquatic life and wildlife; recreational; navigation; and industrial and agricultural water supply. "SB" (marine) uses also include commercial shellfish harvesting.	Water of the minimum acceptable quality based on water parameters and criteria established by the Connecticut WQS. Waters mapped as B are known or presumed to meet water quality criteria which support designated uses.
C	Class C waters are suitable for certain fish and wildlife habitat; certain recreational activities; industrial activities and navigation. Class C waters may have good aesthetic value. "SC" (marine) uses also include certain aquacultural operations.	Water of unacceptable quality due to point or non-point sources of pollution. As a result, water is frequently precluded from meeting Class B water quality criteria for one or more designated uses. Water quality conditions are usually correctable through implementation of water quality programs to control point and nonpoint sources. The goal for these waters is achievement of Class A or B criteria and designated uses. For freshwater resources, the goal may also be Class AA. The minimum acceptable goal is Class B unless a DEP and EPA approved Use Attainability Analysis demonstrates that one or more Class B designated uses are not attainable. In those situations, site specific water quality criteria will be employed to insure that all existing uses are maintained.
D	Class D waters may be suitable for bathing or other recreational purposes, certain fish and wildlife habitat, industrial uses and navigation. Class D waters may have good aesthetic value. "SD" (marine) uses also include certain aquacultural operations.	Water of unacceptable quality due to severe pollution or presence of certain persistent contaminants in the sediments which may bioaccumulate in the food chain. As a result, water is consistently precluded from meeting Class B water quality criteria for one or more designated uses. Water quality conditions may not be readily correctable through implementation of water quality programs to control point and nonpoint sources. The goal for such waters is identical to the goal for Class C waters.

Source: CTDEP Surface Water Quality Standards (December 17, 2002)

Other waterways in the study area are tributaries to the Naugatuck River. Table 3-4 lists the tributary streams crossed by Route 8 in the study area, their general location, and their water quality classification. Other than the Naugatuck River and these tributary streams, surfaces water features within the study area include a large

surface water impoundment located immediately west of the Naugatuck River in Beacon Falls and a few small open water ponds east of Route 8 in Seymour and Beacon Falls. All of these open water ponds are designated by CTDEP as Class A with respect to water quality.

Table 3-4
Stream Crossings within the Route 8 Study Area

Community	Stream Name	General Location	Water Quality Classification*
Seymour	Bladens River	Located east of Route 8 and just north of Day Street. The watercourse flows west under Route 8 and into the Naugatuck River.	B
Seymour	Mud Brook	Located east of Route 8, it drains to the southwest under North Main Street near the Lakeview Avenue intersection and then under Route 8 and into the Naugatuck River.	A
Beacon Falls	Egypt Brook	Located east of Route 8 and south of Interchange 25 within the Naugatuck State Forest. Drains to the west under Route 8 and into the Naugatuck River.	A
Beacon Falls / Naugatuck	Beacon Hill Brook	Along town boundary between Beacon Falls and Naugatuck. Flows east under Route 8 and into the Naugatuck River in the vicinity of Interchange 25.	A
Naugatuck	Unnamed	Located east of Route 8. Flows west through a residential area, then under Route 8 in the vicinity of Interchange 26. Discharges into the Naugatuck River near Rotary Field.	A
Naugatuck	Fulling Mill Brook / Cold Spring Brook	The confluence of these two brooks is located just east of the study area. The combined drainage then flows in a westerly direction under Route 8 and into the Naugatuck River at a point just south of the Prospect Street Bridge.	Fulling Mill Brook is B; Cold Spring Brook is A

* CTDEP GIS 2008 – Surface Water Quality Mapping

3.2.2 Wetlands

Wetlands are regulated on the federal level by the U.S. Army Corps of Engineers (ACOE) under Section 404 of the Clean Water Act and on the state level by the CTDEP under the Connecticut Inland Wetlands and Watercourses Act. Because wetlands exhibit many functions considered beneficial for both humans and wildlife, and because they are a dwindling resource, both Acts place strong emphasis on wetland avoidance as the primary means of protecting wetland resources. As such, alternatives development and selection is often significantly influenced by these regulations.

Wetlands within the Route 8 study area include inland wetlands defined by federal regulations and inland wetlands defined by state regulations. Federal inland wetlands, as defined by the *Corps of Engineers Wetland Delineation Manual* (U.S. Army Corps of Engineers, Waterways Experiment Station, 1987), are identified by a three-parameter approach that considers hydric soils, hydrophytic vegetation, and the presence of hydrologic indicators. Connecticut state inland wetlands, as defined by

the Connecticut Wetlands and Watercourse Act, are identified by the presence of poorly drained, very poorly drained, alluvial, or floodplain soil types. In many cases, a wetland will qualify as both a state and federal wetland.

A review of 2008 CTDEP GIS data revealed that there are few wetlands in close proximity to the Route 8 study area. This is as expected, since relatively steep (rocky) topography defines much of the Naugatuck River Valley, particularly in Beacon Falls and Naugatuck, and the level valley floors have been historically developed.

Limited field reconnaissance was conducted in February 2009 to verify the presence and extent of wetlands within the corridor. This effort identified three wetlands not shown on the GIS. Wetlands mapped throughout the study area are provided in Technical Memorandum #1. Wetlands within the area (refer to Technical Memorandum #1, Figure 3-3, Sheets 1 through 5 of planned transportation improvements) are also shown on the concept plans provided in Chapter 7 of this report. Table 3-5 lists wetlands by study area town and provides a general description of the location and type of each wetland.

Table 3-5
Wetlands within the Route 8 Study Area

Community	Map ID[1]	General Location and Description	Approx. Size	Regulatory Definition
Seymour	W1	Alluvial soils located along broad, low-lying western shoreline of the Naugatuck River to the northwest of Route 8 Interchange 22. Identified on National Wetland Inventory (NWI) maps as a semi-permanently flooded palustrine emergent wetland.	18.5 acres	State
Seymour	W2*	A stand of common reed (*Phragmites*) located immediately east of Route 8 Interchange 22 and west of North Main Street near the location where Mud Brook flows into the study area from the east. Wetland is framed by open water ponds to the north and south. Field visit identified it as a semi-permanently flooded palustrine emergent wetland.	2.0 acres	Federal / State
Naugatuck	W3*	Narrow vegetated drainage swale located west of Route 8 Interchange 26 southbound on-and off ramps and east of Rotary Fields. The vegetated swale extends from Hotchkiss Street on the north to the Naugatuck River on the south and drains into the river.	0.25 acre	Federal / State
Waterbury	W4*	Wetland pocket located just north of the Naugatuck Town line, west of Route 8, and south of Platts Mills Road. The wetland extends south approximately 800 feet to the Winthrop Avenue cul-de-sac and occupies an excavated /scoured portion of a hillside. It is a lightly wooded palustrine forested wetland.	4.5 acres	Federal / State

* Wetland identified during field reconnaissance.
1 Refer to Technical Memorandum #1, Figure 3-3 (sheets 1 through 5).

3.2.3 Floodplains and Stream Channel Encroachment Lines

The Federal Emergency Management Agency (FEMA) is the federal agency responsible for identifying and mapping floodplains and floodways. Floodplains are low-lying areas adjacent to rivers or streams that are inundated periodically by floodwaters. A 100-year floodplain is an area that has a one-percent chance of being inundated by floodwaters in a given year, whereas a 500-year floodplain is an area that has a one-five hundredth chance (0.02%) of being inundated by floodwaters in a given year. Floodways are located within floodplains and consist of the river or stream channel plus any portion of the 100-year floodplain which carries stream flows during flood events. Floodplains and floodways are important nation-wide for storing floodwaters so that adjacent properties and downstream areas are not damaged during flood events. In Connecticut, stream channel encroachment lines (SCELs) are jurisdictional boundaries established by the CTDEP that generally outline riverine floodplain areas and which may also include portions of 100-year floodplains and floodways.

There are several federal and state laws that regulate development within 100-year floodplains, floodways, and SCEL. On the federal level, Executive Order 11988, *Floodplain Protection*, directs federal agencies to plan and design projects in order to avoid floodplain impacts. If a proposed action is located within a floodplain, alternatives that avoid adverse effects and incompatible development must be considered. In addition, the action must be designed to minimize potential harm to or within the floodplain. At the state level, the CTDEP Inland Water Resources Management Division administers Connecticut's Flood Management Program (C.G.S. Sections 25-68b through 25-68h inclusive), which regulates state agency actions affecting floodplains. State agencies undertaking such actions must submit a Flood Management Certification describing project activities and the measures taken to meet the program's standards. Standards relative to floodplain management apply to any proposed construction or activities in floodplains, such as excavation, fill, materials storage, and others. The CTDEP bases their approval on a variety of considerations including: conformance to the provisions of FEMA's National Flood Insurance Program (NFIP); prevention of flood hazards to human life, health, or property; prevention of adverse impacts to fish populations or fish passage; and prevention of intensification of land uses or development in flood prone areas.

The Connecticut Stream Channel Encroachment Line (SCEL) program (C.G.S. 22a-342 through 22a-349a) was established post-1955 to ensure that floodplain development is compatible hydraulically and structurally with highly flood-prone rivers in the state. CTDEP issues permits for development within designated SCELs only if there is a clear demonstration that a project will not cause an increase in flood hazard or other adverse effects to the floodplain.

Floodplains along the Route 8 corridor are abundant given the location of the highway directly adjacent to the Naugatuck River. However, for the most part,

Route 8 is located above the 100-year floodplain elevation of the river, so flood waters do not reach it. Locations where the Naugatuck River 100-year floodplain is widest within the study area can be found: in the vicinity of Route 8 Interchange 22 where Mud Brook enters the study area from the east; along the river from the Seymour/Beacon Falls town line north to where Route 8 crosses the river at Pine Bridge; along the eastern shoreline of the river where Route 8 crosses in the vicinity of Interchange 24; and adjacent to Route 8 Interchange 26 near Rotary Fields in Naugatuck. Otherwise, the 100-year floodplain associated with the Naugatuck River is narrow and occupies only immediate low-lying shoreline areas. According to the 2008 CTDEP GIS data and FEMA mapping for study area towns, there are no designated FEMA floodways associated with the Naugatuck River within the study area. A Letter of Map Revision (LOMR) is listed on FEMA's website for the town of Beacon Falls that resulted in the removal of a floodway from FEMA mapping.

There are several tributary streams in the study area with 100-year floodplains that are crossed by Route 8. The most notable include Bladens River and Mud Brook in Seymour, Beacon Hill Brook on the Beacon Falls/Naugatuck town line, and Fulling Mill Brook/Cold Spring Brook in Naugatuck, just south of the Prospect Street Bridge near Interchange 28.

The CTDEP has designated a SCEL along much of the Naugatuck River in the study area. The SCEL extends north along the river from Interchange 22 in Seymour to a location just north of Interchange 24. From this point to approximately Interchange 25 in Naugatuck, there is no SCEL associated with the river; however the SCEL designation reappears from Interchange 25 north to Interchange 30 in Waterbury and beyond.

3.2.4 Groundwater Resources

Groundwater is defined as water that collects or flows beneath the earth's surface, filling the porous spaces in soil, sediment, and rocks. Groundwater originates from rain and from melting snow and ice and is the source of water for aquifers, springs and wells. The flow of groundwater generally follows topographic gradients. In the Route 8 study area, the topography indicates that groundwater flows from the hills and lands above the Naugatuck River Valley towards the river in the valley floor. The availability of groundwater and its quality within a particular area varies with local geology, topography, and land use.

Groundwater is the most abundant source of fresh water supply and is usually more pure than surface water sources. To protect high quality groundwater resources from potential degradation regulations such as Connecticut's Aquifer Protection Act (C.G.S. 22a-345a-bb) have been enacted.

The 2008 CTDEP GIS database, CTDEP Groundwater Quality Standards (effective April 12, 1996), and available aquifer maps were consulted to identify the location

and quality of groundwater resources along the study area. The research determined that there are no Sole Source Aquifers, Aquifer Protection Areas (APAs), community water supply wells, or associated wellhead protection zones within 500 feet of Route 8 or the study area ramp termini. There may be individual (private) water supply wells within the study area, which will be identified in future phases of the study if private properties are impacted by the proposed alternatives.

Groundwater quality classifications and designated uses for Connecticut are presented in Table 3-6.

Table 3-6
CTDEP Groundwater Quality Classifications in Study Area

Class	Designated Uses	Description
GA*	Existing private and potential public or private supplies of water suitable for drinking without treatment; base-flow for hydraulically connected surface water bodies.	Water of high quality based on water parameters and criteria established by the Connecticut WQS. Allowable discharges: Same as for GAA, plus discharge from sewage treatment facilities subject to stringent treatment and discharge requirements, and other wastes of natural origin that easily biodegrade and present no threat to groundwater.
GB	Industrial process water and cooling waters; base-flow for hydraulically connected surface water bodies; presumed not suitable for human consumption without treatment.	GB waters are presumed to be degraded due to a variety of pollution sources. Allowable discharges: Same as for GA (the same stringent treatment standards apply), plus certain other biodegradable wastewaters subject to soil attenuation.

Source: CTDEP Groundwater Quality Standards (Effective April 12, 1996).

In terms of groundwater quality, the southern half of the study area, including the Naugatuck State Forest, is underlain primarily by groundwater designated by the CTDEP as Class GA. There are a few Class GB groundwater areas, including an area near Interchange 22 in Seymour, an area just north of the Route 8 Naugatuck River crossing at Pine Bridge in Beacon Falls, and one at the Route 8 Naugatuck River crossing near Lopus Road in Beacon Falls. In the northern half of the study area, from Saint James Cemetery in Naugatuck north into Waterbury, the study area is primarily underlain by Class GB groundwater. The most notable exception is an area of Class GA groundwater in Waterbury to the south of Interchange 30.

3.2.5 Endangered Species

Rare, threatened, and endangered species are protected by federal and state legislation. On the federal level, the United States Department of Interior's (DOI) Fish and Wildlife Service (FWS) and the United States Department of Commerce's (DOC) National Oceanic and Atmospheric Administration (NOAA) Fisheries Division jointly administer the Federal Endangered Species Act (16 U.S.C. 1531-1543).

On the state level, the CTDEP administers the Connecticut Endangered Species Act (C.G.S. Sec. 26-303 to Sec. 26-315). Collectively, the overall objective of these laws is to conserve, protect, restore, and enhance any federal and/or state endangered or threatened species and their essential habitat. Any action which has the potential to significantly affect these protected species must include all reasonable measures to mitigate any adverse impact.

Information on species designated (listed) as threatened and endangered at the state and federal levels is compiled and made available through the CTDEP's Natural Diversity Data Base (NDDB). Established in 1983, the NDDB contains data from biological inventories conducted over the past 100 years. The NDDB currently contains information on the status of nearly 2,000 species of plants and animals, including invertebrates and 45 natural community types. It also lists unique and significant natural communities.

The CTDEP NDDB GIS data layer (CTDEP, 2008) was consulted to determine if there were any records of state threatened or endangered species in the Route 8 study area. Due to the sensitivity of the information, the GIS data layer only depicts approximate locations of protected species, their habitats, and/or significant natural communities. The GIS data review revealed a total of four NDDB records in the study area that can be generally described as follows.

- At the southern end of the Route 8 study area in the vicinity of Interchange 22;
- Just north of the Seymour/Beacon Falls town line;
- West of Interchange 23 in Beacon Falls; and,
- Where Route 8 passes through the Naugatuck State Forest in Naugatuck.

Given the four NDDB records in the study area, coordination letters were sent to both the CTDEP NDDB and the FWS on February 11, 2008, requesting additional species and habitat information. The CTDEP responded in letters dated February 27, 2009 and March 5, 2009, which identified the following NDDB records within the study area:

- State Endangered Species
  - *Halieetus luecocephalus* (bald eagle)
  - *Vermivora chrysoptera* (golden-winged warbler)
- State Threatened Species
  - *Eumeces fasciatus (five-lined skink)*
- State Special Concern Species
  - *Caprimulgus vociferus (whip-poor-will)*

- *Papaipema leucostigma (columbine borer)*

As improvement options are advanced, consultation with a CTDEP wildlife specialist will be required to ascertain the need for species surveys, the potential for impact to identified species, and any mitigation measures that may be required.

The FWS responded in a letter dated March 17, 2009 which stated that no federally-listed or proposed threatened or endangered species or critical habitat under the jurisdiction of the FWS are known to occur in the project study area. Therefore, preparation of a Biological Assessment and/or further consultation with the FWS under Section 7 of the Endangered Species Act is not required.

The data requests and responses from the CTDEP and FWS as well as the threatened and endangered species mapping are included in Technical Menorandum #1.

3.2.6 Farmland Soils

The Farmland Protection Policy Act (FPPA) of 1981 (7 CFR 658, as amended at 59 Federal Register 31117) was enacted by the U.S. Department of Agriculture (USDA) in order to protect farmlands and to prevent disturbance to soils important to agricultural production.

Important farmland soils in Connecticut are divided into two basic groups, prime farmland soils and additional farmland soils of statewide importance. Prime farmland soils have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and are also available for these uses. In general, prime farmland soils have an adequate and dependable moisture supply, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. Additional farmland soils of statewide importance are not as high quality as prime farmland soils but are still important for the economical production of high yield crops. Some may produce as high a yield as prime farmland soils if conditions are favorable.

A review of Natural Resource Conservation Service (NRCS) soils data (2008 CTDEP GIS) revealed that there are no prime farmland soils and only one area of additional farmland soils of statewide importance. That area is an undeveloped 100-year floodplain located immediately west of the Naugatuck River in the vicinity of Interchange 22. There is also only one active farm within the study area. This farm is located in Beacon Falls to the west of Route 8 along Lopus Road. The farm is not located in an area mapped as being important for farmland soils.

3.3 Cultural and Recreational Resources

This section provides an overview of cultural and recreational resources within the study area, including historic and archaeological resources, Section 4(f) lands, and Section 6(f) lands.

3.3.1 Cultural Resources

Cultural resources are an important part of the character of a community, and may include historic features such as buildings, structures, sites, objects and districts. They may also include archaeological resources, which are physical remains, usually buried, of past activities on a site. Section 106 of the National Historic Preservation Act of 1966, as amended, requires federal agencies to take into account the effect of an undertaking on historic properties listed on or eligible for listing on the National Register of Historic Places (National Register). The Act requires that all federal actions (for instance, projects receiving federal funding) be studied to determine if the project would have: no effect, no adverse effect, or an adverse effect on historic resources (36 CFR 800.3).

Research of the records of the Connecticut State Historic Preservation Office (SHPO), the Connecticut Historic Properties Inventory, and the National Register database revealed that numerous historic resources are located within the Route 8 study area. In addition to this documentary research, FHI conducted a windshield survey of the study area and solicited information on historic and archaeological resources from the local historical organizations of each town. The Staff Archaeologist of the Commission on Culture and Tourism, the office that serves as Connecticut's SHPO, was also consulted.

The cultural resources examined in this section are those eligible or potentially eligible for listing on either the National Register or the Connecticut State Register of Historic Places (State Register). The majority of these resources have previously been identified on the Connecticut Statewide Historic Resource Inventory (SHRI). All known historic resources in the study area are listed in Table 3-7. As noted in Section 3.3.2, these resources are also potential Section 4(f) resources.

Table 3-7
Known Historic Resources within the Route 8 Study Area

Community	Map ID[1]	Address (if known)	Resource Name / Style / Use (if known)	Designation
Seymour	H1	9 Bank Street	Barber Shop	Downtown Seymour National Register Historic District, SHRI
Seymour	H2	11-15 Bank Street	Store	Downtown Seymour National Register Historic District, SHRI
Seymour	H3	12 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H4	14-16 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H5	17 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H6	18-22 Bank Street	Seymour Furniture Co.	Downtown Seymour National Register Historic District, SHRI
Seymour	H7	19-23 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H8	26-28 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H9	27-29 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H10	32-36 Bank Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H11	33-37 Bank Street	American Legion Post #10	Downtown Seymour National Register Historic District, SHRI
Seymour	H12	Deforest Street	Cities Service Company - Brick outbuilding associated with Waterman Pen Complex	Downtown Seymour National Register Historic District, SHRI
Seymour	H13	Deforest Street	Cities Service Company - Medical Arts Building	Downtown Seymour National Register Historic District, SHRI
Seymour	H14	Deforest Street	Cities Service - Located partially under Rte. 8	Downtown Seymour National Register Historic District, SHRI
Seymour	H15	22 Deforest Street	S.F.D. Citizen Engine Co. No. 2	Downtown Seymour National Register Historic District, SHRI
Seymour	H16	1 First Street	Town Hall	Downtown Seymour National Register Historic District, SHRI

1 Refer to Technical Memorandum #1, Figure 3-5 (Sheets 1 through 5)

Table 3-7 (Con'd.)
Known Historic Resources within the Route 8 Study Area

Community	Map ID[1]	Address (if known)	Resource Name / Style / Use (if known)	Designation
Seymour	H17	First Street	Town Hall Storage	Downtown Seymour National Register Historic District, SHRI
Seymour	H18	29-31 First Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H19	35-37 First Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H20	26-28 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H21	46-50 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H22	52 Main Street	Seymour Metal Workers Union Local 1827	Downtown Seymour National Register Historic District, SHRI
Seymour	H23	79 Main Street	Cities Service Company	Downtown Seymour National Register Historic District, SHRI
Seymour	H24	82-84 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H25	99-90 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H26	91 Main Street	Post Office	Downtown Seymour National Register Historic District, SHRI
Seymour	H27	101-111 Main Street	Seymour Trust Co.	Downtown Seymour National Register Historic District, SHRI
Seymour	H28	115 Main Street	Seymour Trust Co.	Downtown Seymour National Register Historic District, SHRI
Seymour	H29	117-121 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H30	127 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H31	131-139 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H32	141 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H33	143-149 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H34	151-153 Main Street	Mechanics Lodge #73	Downtown Seymour National Register Historic District, SHRI
Seymour	H35	157-161 Main Street		Downtown Seymour National Register Historic District, SHRI
Seymour	H36	163-169 Main Street	Knights of Columbus Assoc.	Downtown Seymour National Register Historic District, SHRI
Seymour	H37	52 Wakeley Street	Seymour Furniture Co.	Downtown Seymour National Register Historic District, SHRI
Beacon Falls	H38	111 Old Turnpike Road	Classical Revival/Victorian	SHRI
Beacon Falls	H39	343 Lopus Road	Colonial Revival	SHRI
Beacon Falls	H40	152 Lopus Road	Shingle style	SHRI
Beacon Falls	H41	8-10 Pines Bridge Road	Cape	SHRI
Naugatuck	H42	199 Bridge Street	ca. 1898 Firehouse	SHRI

1 Refer to Technical Memorandum #1, Figure 3-5 (Sheets 1 through 5)

Table 3-7 (Con'd.)
Known Historic Resources within the Route 8 Study Area

Community	Map ID[1]	Address (if known)	Resource Name / Style / Use (if known)	Designation
Naugatuck	H43	34 Calvin Street	ca. 1890 Queen Anne style house	SHRI
Naugatuck	H44	15 Carroll Street	ca. 1900 Neo-Classical Revival house	SHRI
Naugatuck	H45	59 Central Avenue	ca. 1895 Queen Anne style house	SHRI
Naugatuck	H46	61 Central Avenue	ca. 1890 C.P. Cook House	SHRI
Naugatuck	H47	65 Central Avenue	ca. 1870 Queen Anne style house	SHRI
Naugatuck	H48	8 Curtiss Court	ca. 1920 vernacular building	SHRI
Naugatuck	H49	11 Curtiss Street	ca. 1892 Queen Anne style house	SHRI
Naugatuck	H50	22 Curtiss Street	ca. 1900 Queen Anne style house	SHRI
Naugatuck	H51	32 Curtiss Street	ca. 1895, Daniel A. and Elsie C. Vera House	SHRI
Naugatuck	H52	42 Curtiss Street	ca. 1900 Queen Anne style house	SHRI
Naugatuck	H53	74 Curtiss Street	ca. 1914 Neo-Classical Revival house	SHRI
Naugatuck	H54	78 Curtiss Street	ca. 1890 Queen Anne style house	SHRI
Naugatuck	H55	84 Curtiss Street	ca. 1890 Queen Anne style house	SHRI
Naugatuck	H56	124 Curtiss Street	ca. 1895 Queen Anne style house	SHRI
Naugatuck	H57	70 Golden Hill Street	ca. 1865, L. Spencer House	SHRI
Naugatuck	H58	44 High Street	ca. 1880 Italianate house	SHRI
Naugatuck	H59	84 High Street	ca. 1919 Neo-Classical Revival house	SHRI
Naugatuck	H60	Hillside Cemetery	ca. 1875-1900	SHRI
Naugatuck	H61	19 Hopkins Street	ca. 1860 Greek Revival/Queen Anne house	SHRI
Naugatuck	H62	Maple Street – John H. Whittemore Memorial Bridge	ca. 1914	SHRI
Naugatuck	H63	155 Maple Street	ca. 1913 I.O.O.F. Hall	SHRI
Naugatuck	H64	163 Maple Street	ca. 1850 vernacular house	SHRI
Naugatuck	H65	173-177 Maple Street	ca. 1865 Queen Anne row houses	SHRI
Naugatuck	H66	194 Maple Street	ca. 1904 Queen Anne house	SHRI
Naugatuck	H67	23 Myrtle Avenue	ca. 1928 Bungalow style house	SHRI
Naugatuck	H68	178-180 North Main Street	ca. 1911 Behlman & Fahey block	SHRI
Naugatuck	H69	212-214 North Main Street	ca. 1877 Queen Anne apartment house	SHRI
Naugatuck	H70	219 North Main Street	ca. 1920 Neo-Classical Revival house	SHRI

1 Refer to Technical Memorandum #1, Figure 3-5 (Sheets 1 through 5)

Table 3-7 (Con'd.)
Known Historic Resources within the Route 8 Study Area

Community	Map ID[1]	Address (if known)	Resource Name / Style / Use (if known)	Designation
Naugatuck	H71	220 North Main Street	ca. 1890 Italianate house	SHRI
Naugatuck	H72	250-252 North Main Street	ca. 1895 Queen Anne style house	SHRI
Naugatuck	H73	282-284 North Main Street	ca. 1910 Neo-Classical Revival/Colonial Revival house	SHRI
Naugatuck	H74	286-288 North Main Street	ca. 1910 Colonial Revival house	SHRI
Naugatuck	H75	290-292 North Main Street	ca. 1910 Colonial Revival house	SHRI
Naugatuck	H76	308 North Main Street	ca. 1850 L. Gaylord House	SHRI
Naugatuck	H77	323 North Main Street	ca. 1885 Queen Anne House	SHRI
Naugatuck	H78	333 North Main Street	ca. 1860 M. Terrel House	SHRI
Naugatuck	H79	338 North Main Street	ca. 1937, Saint Mary's Rectory	SHRI
Naugatuck	H80	339 North Main Street	ca. 1900 vernacular house	SHRI
Naugatuck	H81	North Main Street	ca. 1908, Saint Mary's Church	SHRI
Naugatuck	H82	364 North Main Street	ca. 1910 Colonial Revival house	SHRI
Naugatuck	H83	376 North Main Street	ca. 1895 Queen Anne/Colonial Revival House	SHRI
Naugatuck	H84	393 North Main Street	ca. 1895 Queen Anne style house	SHRI
Naugatuck	H85	18 Oak Street	ca. 1900 vernacular house	SHRI
Naugatuck	H86	22 Oak Street	ca. 1900 Neo-Classical Revival house	SHRI
Naugatuck	H87	29 Oak Street	ca. 1850 Greek Revival/Colonial Revival house	SHRI
Naugatuck	H88	Oak Street - Pine Hill Cemetery	ca. 1709	SHRI
Naugatuck	H89	70 Oak Street	ca. 1920 Crafsman Style house	SHRI
Naugatuck	H90	13 Prospect Street	ca. 1912 Neo-Classical Revival house	SHRI
Naugatuck	H91	248-260 South Main Street	ca. 1900 Neo-Classical Revival house	SHRI
Naugatuck	H92	396 South Main Street	ca. 1875 Queen Anne Style house	SHRI
Naugatuck	H93	438 South Main Street	ca. 1910 Neo-Classical Revival house	SHRI
Naugatuck	H94	Tolles Square	ca. 1895 Queen Anne style house	SHRI
Naugatuck	H95	195 Water Street	ca. 1908 Railroad Station	SHRI
Naugatuck	H96	Water Street	ca. 1847 Power Canal Intake	SHRI
Naugatuck	H97	24 Woodbine Street	ca. 1765, Thomas Porter House	SHRI
Naugatuck	H98	36 Woodbine Street	ca. 1925 American Foursquare style house	SHRI
Waterbury	H99	50 Charles Street	Saint Patrick's Church and Rectory.	Windshield survey suggests property is potentially National Register Eligible

1 Refer to Technical Memorandum #1, Figure 3-5 (Sheets 1 through 5)

Table 3-7 (Con'd.)
Known Historic Resources within the Route 8 Study Area

Community	Map ID[1]	Address (if known)	Resource Name / Style / Use (if known)	Designation
Waterbury	H100	80-240 Charles, 3rd, 4th, 5th, Gardner Streets	Late 19th / early 20th century residential properties.	Windshield survey suggests area is potentially National Register Eligible as a district.
Waterbury	H101	Riverside Cemetery		Riverside Cemetery National Register Historic District
Waterbury	H102	155 South Leonard Street		Windshield survey suggests property is potentially National Register Eligible.
Waterbury	H103	197 South Leonard Street		Windshield survey suggests property is potentially National Register Eligible.

Sources: National Register of Historic Places, 2009, Connecticut Statewide Historic Resources Inventory (SHRI), Connecticut Historical Commission; Fitzgerald & Halliday, Inc. (windshield surveys)

1 Refer to Technical Memorandum #1, Figure 3-1 (Sheets 1 through 5)

3.3.2 Section 4 (f) and 6 (f) Lands

This section provides an overview of Section 4(f) and Section 6(f) resources located within 500 feet of the Route 8 corridor. These resources are important to consider when planning transportation improvements, as they are protected by federal legislation.

Section 4(f) Properties

Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303) applies to federally funded transportation projects that impact or require use of significant publicly owned parks, recreation areas, wildlife or waterfowl refuges, and historic and archaeological sites listed on or eligible for listing on the National Register of Historic Places (23 CFR 771.135). The act requires that special efforts be made to protect such lands during the course of project development. Prior to the FHWA approving the use of a Section 4(f) property for a transportation project, it must be demonstrated that there are no feasible or prudent alternatives avoiding such use. Additionally, it must be demonstrated that all possible planning has occurred to minimize harm to these important public resources.

When the significance of a property is unknown, such as when the importance of a park for recreation is unknown, or when project impacts to the property are not yet certain, the property is called a "potential" Section 4(f) property. Hence, at this early planning stage in the Route 8 study, all of the properties identified as Section 4(f) property types are considered potential Section 4(f) resources. In the case of historic resources that are part of an eligible historic district, such resources must be "contributing" features to the district in order to qualify as potential Section 4(f)

resources. In some cases, Section 4(f) may not apply while Section 106 does apply, depending on the results of coordination among the State Historic Preservation Office (SHPO), CTDOT and the lead federal agency.

Mapping of potential Section 4(f) resources in the study area is provided in Technical Memorandum #1. Historic Section 4(f) properties are identified in Table 3-7 of Section 3.3.1. Public parks, recreation areas, and wildlife or waterfowl refuges within the study area were identified by community and are listed in the Table 3-8 below.

Table 3-8
Potential Section 4(f) Resources (Non –Historic) Within the Route 8 Study Area

Community	Map ID[1]	Resource	Owner	Approx. Size (acres)	Facilities
Seymour	4f-1	French Memorial Park	Town of Seymour	13.0 acres	Baseball diamond; football field; basketball court; all-purpose play area; picnic area; scenic overlook; benches; band stand
Seymour	4f-2	Champions Park	Town of Seymour	0.25 acres	Benches, interpretive signage
Beacon Falls	4f-3	Naugatuck State Forest	State of Connecticut	5,000 acres	None
Beacon Falls	4f-4	Naugatuck River Public Water Access	State of Connecticut	11.1 acres	None
Beacon Falls	4f-5	Special Olympics Ball field	Town of Beacon Falls	24.0 acres	Baseball field, benches
Beacon Falls	4f-10	Naugatuck Trail – CT Blue Blaze Trail	State of Connecticut	Linear – about 8 miles	Unimproved Path
Naugatuck	4f-6	Naugatuck River Water Access	State of Connecticut	5.2 acres	None
Naugatuck	4f-7	Rotary Fields	Rotary Club of Naugatuck	11.0 acres	Baseball fields, soccer fields, walking track, benches
Naugatuck	4f-8	Naugatuck River Recreation Access	Borough of Naugatuck	17.1 acres	None
Waterbury	4f-9	Rolling Mill Playground	City of Waterbury	3.14 acres	Play area

1 Refer to Technical Memorandum #1, Figure 3-5 (Sheets 1 through 5)

Section 6(f) Properties

The Land and Water Conservation Fund Act of 1965 (LWCF) was enacted to help preserve, develop, and assure access to outdoor recreation facilities. Its objective was to facilitate participation in recreational activities and strengthen the overall health of United States citizens. The act sought to accomplish this objective by providing funds for federal acquisition and development of lands and other areas and by "providing funds for and authorizing" federal assistance to states in recreation planning, acquiring lands and waters, and development of recreation facilities.

Section 6(f) of the LWCA prohibits the conversion of a property acquired or developed with land and water conservation funds to a non-recreational purpose without the approval of the Department of Interior's National Park Service (NPS). Properties that were either acquired or developed with these funds are referred to as Section 6(f) properties. Based on the National Park Service's 2008 list of LWCF properties, there are **no** Section 6(f) properties within the study area.

3.4 Other Environmental Factors

This section summarizes other environmental factors that could potentially affect alternatives development. Topics covered include hazardous materials and environmental justice populations.

3.4.1 Hazardous Materials

Data sources that were reviewed to identify potential hazardous materials and environmental risk sites within the study area include the Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) GIS database (2005), and the CTDEP 2008 GIS coverage entitled Landfill Leachate and Wastewater Discharges.

Study area communities in the Naugatuck River Valley have a long history as industrial and manufacturing-based economies. Many products, industrial processes, and factories were born in the valley communities including: the process of vulcanized rubber, which was developed in Naugatuck by Goodyear; the production of Naugahide to upholster furniture, which was manufactured in Naugatuck; and most notably the booming brass factory that gave Waterbury its moniker as the "Brass City." Therefore, it is not surprising that there are numerous hazardous materials / environmental risk sites located along the Route 8 study area.

Table 3-9 lists known hazardous materials sites within the study area by community and type based on the source data that was reviewed. A windshield survey conducted along the corridor identified several concentrations of industrial and other high risk land uses within the study corridor.

3.4.2 Environmental Justice

Demographic data for this environmental screening was drawn from the Connecticut Economic Resource Center (CERC) Town Profiles (2009) and 2000 U.S. Census data. It includes information on population, households, and employment. In addition, population characteristics in terms of income and ethnicity are discussed to identify concentrations of environmental justice (EJ) populations within the study area.

Title VI of the Civil Rights Act of 1964 requires that "no person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title VI bars intentional discrimination as well as any disparate impact discrimination (i.e. a neutral policy or practice that has the effect of a disparate impact on protected groups).

In 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* The Executive Order further amplifies Title VI by providing that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

Table 3-9
Hazardous Material Sites within the Route 8 Study Area

Community	Map ID[1]	Site Name and Brief Description	Database
Seymour	Z1	Active Salt Storage	CTDEP Landfill, Leachate and Wastewater Discharge
Seymour	Z2	New Haven Copper – Former combined cooling and wastewater discharge	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z3	Bristol Socket Screw – Septic Leachfield	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z4	Leverty & Hurley – Secondary Discharge	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z5	Beacon Falls Sewage Treatment Plant	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z6	Zollo Drum – Historic oil/chemical spills	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z7	Landfill – Former site of industrial waste disposal	CTDEP Landfill, Leachate and Wastewater Discharge
Beacon Falls	Z8	Active Salt Storage	CTDEP Landfill, Leachate and Wastewater Discharge
Naugatuck	Z9	Uniroyal – Cooling water surface discharge	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z10	Platt Company – Cooling water surface discharge	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z11	Waterbury South End Disposal Area – Active landfill	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z12	Waterbury Sewage Treatment Plant	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z13	Waterbury South End Disposal Area – Inactive landfill	CTDEP Landfill, Leachate and Wastewater Discharge & EPA CERCLIS (Not on the National Priorities List)
Waterbury	Z14	Hubbard Hall, Inc.	EPA CERCLIS (Not on National Priorities List)
Waterbury	Z15	Alcort Sail (AMF Alcort) – Inactive industrial pit.	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z16	Anaconda Brass (aka) Starbuck Sprague	CTDEP Landfill, Leachate and Wastewater Discharge & EPA CERCLIS (Not on the National Priorities List)
Waterbury	Z17	Waterbury Plating Co. – Inactive industrial pit	CTDEP Landfill, Leachate and Wastewater Discharge
Waterbury	Z18	Ansonia Copper & Brass Inc.	EPA CERCLIS (Not on National Priorities List)

Sources: 2008 CTDEP GIS Database (Landfill, Leachate, and Wastewater Discharges and 2005 EPA CERCLIS GIS Database.
1 Refer to Technical Memorandum #1 for further details.

U.S. Census 2000 data were used to map the occurrence of environmental justice (minority and low-income) populations in the Census Block Groups which fall within and surround the study area. A minority person is defined by the Census as anyone who is non-white. The definition of low-income used for evaluating environmental justice populations is equivalent to the Census category "below poverty level". The purpose of the mapping is to determine where environmental justice (EJ) groups may live, so that project planning can take these populations into consideration during the development of Route 8 transportation improvement alternatives. Table 3-10 below summarizes demographic data for the study area municipalities, including population, income, and general employment characteristics. The data is compiled from U.S. Census information, which divides municipalities into smaller geographic units called census block groups. The table shows the overall population of each study area municipality and then displays data for just the block groups (combined) that are wholly or partially encompassed by the study area. The block group data more closely reflects conditions in the study area than town-wide or city-wide data.

Table 3-10 indicates that 80 percent of Seymour's population (12,000 + persons) live in the study area's Census Block Groups while only a small number of Beacon Falls residents live within study area Census Block Groups (191 people). Naugatuck and Waterbury are somewhere between with roughly 50 percent and 10 percent, respectively, of the total population living in the study area Block Groups.

Table 3-10
Demographic Data for the Study Area
Compared to State of Connecticut

	Seymour	Beacon Falls	Naugatuck	Waterbury	Connecticut
2000 Population	15,454	5,246	30,989	107,271	3,405,565
2000 Pop. in study area Census Block Groups	12,380	191	16,418	10,936	n/a
2008 Est. Population	15,984	5,782	31,678	108,160	3,540,856
2008 Est. Households	6,186	2,176	11,734	41,649	1.333.050
2008 Average HH size	2.6	2.7	2.7	2.6	2.7
2008 Median Income	$64,510	$69,675	$63,193	$42,404	n/a
2007 Est. Labor Force	9,325	3,311	17,222	50,031	1,856,499
2007 % Unemployed.	4.6%	4.4%	5.1%	7.3%	4.6%

Source: CERC 2009

The table also indicates that the highest household incomes are located in Beacon Falls and Seymour. The lowest unemployment rate is also in Beacon Falls at 4.4% with Seymour at a comparable rate of 4.6%. The unemployment rate in Seymour and Beacon Falls was also comparable to that of the State of Connecticut as a whole. Waterbury is the least affluent of the study area communities. It has the lowest median household income at $42,404 and a relatively high unemployment rate of 7.3 percent.

The threshold for determining a concentration of EJ populations is based upon a comparison of the Census Block Group data to a larger geographic area, namely the municipality, relevant planning region, and State of Connecticut data. Census Block Groups in the study area with greater than 9% of the total population below poverty or with a minority population greater than 18% are considered to have EJ populations. Table 3-11 summarizes the findings of this analysis. These environmental justice populations are located in three of the four communities located along the study area including:

- Nearly all of the study area in Waterbury;
- Along the western edge of the study area, near the southern off ramps of Interchange 28 in Naugatuck; and,
- In the Downtown area of Beacon Falls, adjacent to Interchange 24.

Table 3-11
Environmental Justice Data for the Route 8 Study Area –
Minority and Below – Poverty Populations

Geographic Area	Census Tract	Block Group	2000 Population	Minority	% Minority	Below Poverty	% Below Poverty
Seymour - Total			15454	1617	10%	573	4%
Seymour - Study Area	1301	1	2955	141	5%	30	1%
	1301	2	2061	77	4%	154	7%
	1301	3	2688	233	9%	105	4%
	1302	1	709	24	3%	23	3%
	1302	2	3967	206	5%	215	5%
Beacon Falls - Total			5246		4	309	6%
Beacon Falls - Study Area	3411	1	1202	112	9%	173	14%
	3411	2	1853	40	2%	51	3%
	3411	3	1116	0	0%	37	3%
	3411	9	1075	39	4%	48	4%
Naugatuck - Total			30989		9	1977	6%
Naugatuck - Study Area	3451	1	2198	156	7%	168	8%
	3451	2	1715	341	20%	169	10%
	3451	3	850	237	28%	167	20%
	3451	4	1874	44	2%	65	3%
	3452	1	2908	128	4%	179	6%
	3452	2	2989	170	6%	208	7%
	3452	3	931	117	13%	10	1%
	3453	1	1099	21	2%	34	3%
	3453	2	1244	136	11%	64	5%
	3454	2	610	30	5%	50	8%
Waterbury - Total			107271		33	16774	16%
Waterbury - Study Area	3515	4	1533	364	24%	250	16%
	3516	1	927	114	12%	62	7%
	3516	2	770	77	10%	36	5%
	3516	3	648	0	0%	47	7%
	3516	4	667	83	12%	117	18%
	3516	4	2408	184	8%	35	1%
	3517	1	897	230	26%	121	13%
	3517	2	1932	771	40%	505	26%
	3519	2	1154	147	13%	141	12%
CNVCOG Region			272594	44126	16%	22832	8%
VCOG Region			84500	6891	8%	4189	5%
Connecticut			3405565	627771	18%	259514	8%

Source: 2000 U.S. Census Note*: Gray shading indicates Census Block Groups that contain EJ populations