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Gorham Bypass Study, Chapter Three : Affected Environment, 2003

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3. Affected Environment

3.1 Introduction

This chapter presents Study Area baseline information on the existing transportation, physical, biological and social environment. The natural resources, prime and unique farmland, community facilities, property and utilities, historic and archaeological sites, and hazardous waste components are described within the limits of the Study Area. Land use, social and economic environment, community services, traffic, air quality and noise components are described for the Study Area and surrounding areas, as appropriate.

3.2 Transportation Environment

The Town of Gorham is located 15.2 km (9.5 mi) west of Portland, Maine, Cumberland County (Figure 1-1, Page 1-3). Highway access to Gorham is provided by U.S. Route 202, and State Routes 4, 22, 25, 114, and 237. State Route 22 connects to the Maine Turnpike, Interstate Route 95 (I-95), approximately 10.3 km (6.4 mi) to the east of Gorham Village. State Route 25 connects to the Maine Turnpike approximately 11.6 km (7.2 mi) to the east of Gorham Village. The Town of Gorham is bounded by the Town of Standish to the west, the Town of Buxton to the southwest, the City of Westbrook to the east, the Town of Scarborough to the south, and, the Town of Windham to the north.

3.2.1 Highway Network

Key State and U.S. routes within the Study Area include (see Figure 1-2, page 1-4):

- State Route 22 (Route 22) - This is a two-lane highway with a posted speed of 72 kilometers per hour (kph) [45 miles per hour (mph)]. Route 22 is a minor arterial, oriented west/east, that runs along the southern edge of the Town of Gorham and the Study Area. It carries primarily through traffic connecting western Maine with the Portland region, and also serves local traffic. Within the Study Area, Route 22 has mainly rural characteristics such as rolling terrain with limited paved and often gravel shoulders. Residential and commercial properties are predominant in the section that overlaps with State Route 114, while scattered residences exist in the remaining rural sections. Route 22 is being evaluated by PACTS as a separate study.
- State Route 25 (Route 25) - This is a two-lane highway with a posted speed of 48 kph (30 mph) through Gorham Village. Route 25 within Gorham Village is considered to be part of an "Urban Compact" or "Built-up" section, where structures are nearer than 61 m (200 ft) apart for a distance of 0.4 km (0.25 mi). East of Gorham Village, the posted speed on Route 25 increases to 72 kph (45 mph). West of Gorham Village, the posted speed on Route 25 increases to 80 kph (50 mph). Route 25 is an urban arterial oriented west/east through Gorham Village. It carries primarily through traffic traveling east/west and west/south as well as local traffic. Urban characteristics include paved shoulders with sidewalks on one or both sides. Rural characteristics include rolling terrain with limited paved and often gravel shoulders. Commercial and residential properties are predominant in the urban sections, while scattered residences exist in rural sections

- State Route 4/U.S. Route 202 (Routes 4/202 shared designation) - This is a two-lane highway with a posted speed of 72 kph (45 mph) outside of Gorham Village. The posted speed through Gorham Village on Route 4/202 is 48 kph (30 mph). Route 4/202 is a rural arterial oriented southwest and northeast outside of Gorham Village. It carries both through and local traffic. Route 4/202 overlaps with Route 25 through Gorham Village, where the speed limit is 40 kph (25 mph). Rural characteristics include rolling terrain with limited paved and often gravel shoulders. Urban characteristics are similar to Route 25. Commercial and residential properties are predominant in the urban sections, while scattered residences exist in rural sections.
- State Route 114 (Route 114) - This is a two-lane highway with a posted speed of 40 kph (25 mph) through Gorham Village and 72 kph (45 mph) outside Gorham Village. Route 114 is a rural arterial oriented south/north through Gorham Village. It carries primarily through traffic, along with local traffic. Outside of the Gorham Village area, Route 114 is dominated by rural characteristics such as rolling terrain with limited paved and often gravel shoulders. Commercial and residential properties are predominant in the urban sections, while scattered residences exist in rural sections.
- State Route 237 (Route 237) - This is a two-lane highway with a posted speed of 72 kph (45 mph) along the majority of its length. Route 237 is a rural arterial oriented south/north and runs from Mosher Corner in Gorham to State Route 35 in Standish. It carries primarily through traffic connecting to/from the Lakes Region, and also serves local traffic. Within the Gorham Town limits, Route 237 has mainly rural characteristics such as rolling terrain with limited paved and often gravel shoulders. Residences and scattered commercial properties are predominant in the Study Area.

3.2.2 Other Modes

Public transit and non-highway transportation facilities in or around the Study Area are limited. These facilities are described in Section 2.2.1, page 2-15.

3.2.3 Traffic Volumes

Historic traffic data from 1995 to 1999 for Gorham Village and portions of the Study Area indicate that daily traffic volumes continue to grow. However, peak hour traffic volumes remain relatively unchanged because peak hour traffic volumes are at or near capacity conditions. This condition causes motorists to travel outside of typical peak periods onto “shoulder” periods when capacity is available, or to divert to an alternate route where capacity is available.

Traffic volumes on the key highways and streets within the Study Area are tabulated in Table 3-1, page 3-3 for existing (1999) and future (2025) years. The future year volumes are based on a No-Build Alternative, for which the existing road network remains in place with no improvements made in the Study Area. These are forecasted conditions under a “do-nothing” scenario. Forecasted growth will vary by road and dependant on planned development. For example, daily traffic on sections of Route 114 is expected to grow up to 38% over the 26-year period from 1999 to 2025. Daily traffic on sections of Route 25 are expected to grow up to 43% over this period. Changes in peak hour traffic volumes will also vary and in many cases growth will be less than daily growth due to capacity constraints on these segments. In one case, Day Road, future traffic volumes are projected to be lower than existing traffic volumes as a result of other road improvements expected to occur outside of the Study Area. Day Road currently

accommodates traffic diverting away from the congested Route 22/Route 114 overlap area in South Gorham. With expected capacity improvements in the Route 22/Route 114 overlap area, the current level of traffic diversion to Day Road is expected to no longer occur.

**Table 3-1
Traffic Volumes, Existing (1999) and Future (2025)**

Road	Existing Average Daily Traffic (Vehicles Per Day)	Existing PM Peak Hour Traffic (Vehicles Per Hour)	Year 2025 Average Daily Traffic (Vehicles Per Day) / % Change from Existing	Year 2025 PM Peak Hour (Vehicles Per Hour) / % Change from Existing
Route 25, west of Cressey Road	14,750	1,320	20,860/41.1%	1,660/ 25.8%
Route 25, between Routes 4/202 (west) and Route 114	21,950	1,970	31,340/42.8%	2,230/ 13.2%
Route 25, between Route New Portland Road and Routes 4/202	15,600	1,240	19,510/25.6%	1,350/ 8.9%
Route 25, east of Routes 4/202 (east)	11,730	920	13,230/12.8%	1,010/ 9.8%
Routes 4/202 (east), north of Route 25	5,370	430	6,630/23.5%	530/ 23.3%
Routes 4/202, southwest of Cressey Road	6,130	560	8,780/43.2%	700/ 25.0%
Route 114, South of Day Road	14,230	1,270	19,160/34.6%	1,510/ 18.9%
Route 114, North of Day Road	16,490	1,390	18,100/9.8%	1,570/ 12.9%
Route 114, between Route 25 and College St.	7,210	920	9,930/37.7%	1,110/ 20.7%
Cressey Road, between Routes 4/202 and Flaggy Meadow Road	1,330	160	2,010/51.1%	250/ 56.3%
Cressey Road, between Flaggy Meadow Road and Route 25	1,150	110	2,100/82.6%	240 / 118%
Flaggy Meadow Road, west of Cressey Road	2,940	240	3,750/27.6%	350/ 45.8%
New Portland Road, east of Route 25	8,530	750	10,220/19.8%	860/ 14.7%
Brackett Road, south of New Portland Road	3,620	400	5,770/59.4%	590/ 47.5%
Day Road	900	150	360/-60.0%	70/ -53.0%

3.2.4 Level of Service

Levels of service (LOS) are quantitative measures of the quality of traffic flow on a road or at an intersection. LOS designations range from “A”, which provides free flow and no traffic delays, to “F”, which consists of vehicle backups and highly congested conditions. Generalized characteristics of the six LOS designations are described in Table 3-2.

**Table 3-2
Level of Service Characteristics**

Level of Service	Traffic Flow Characteristics
A	Free Flow Condition Ability to maneuver freely within traffic stream.
B	Reasonably Free Flow Operations Ability to maneuver within traffic stream only slightly restricted.
C	Stable Operations Freedom to maneuver is limited. Small increases in flow will cause substantial deterioration in service.
D	Bordering on Unstable Flow Freedom to maneuver within traffic stream is severely limited.
E	Extremely Unstable Operations Maneuverability is extremely limited.
F	Forced or Breakdown Flow Stop and Go traffic.

Levels of service for the existing (1999) conditions at two signalized and eight unsignalized intersections in the Study Area indicate that:

- The signalized intersection of Route 25 and 114 operates at LOS F in the AM peak hour and LOS E in the PM peak hour.
- The signalized intersection of Route 25 and New Portland Road operates at LOS D in the AM peak and LOS F in the PM peak.
- Five unsignalized intersections within the Study Area operate at acceptable levels (LOS D or better). The remaining three intersections have one or more movements that operate at LOS E or F. These movements are generally the side street movements onto the major street.

Levels of service for the existing (1999) conditions on 30 highway segments indicate that:

- Nearly half (14 out of 30) of the highway segments are at LOS E or worse.
- Slightly over one third of these (5 out of 14) have a volume/capacity (v/c) ratio greater than 0.75 (75% of available capacity is used).

- Three of the fourteen segments have v/c ratios that are higher than 0.85, with one greater than 1.00. These include segments of Route 25 east and west of Gorham Village, and the Route 22/Route 114 overlap area in South Gorham.

As traffic volumes continue to increase in the future, and if improvements are not made, operations at Study Area intersections and highway segments will generally worsen. An analysis of how the Preferred Alternative addresses these deficiencies is presented in Chapter 4, page 4-1.

3.2.5 Crash History

Within the Study Area, there are a total of 16 intersections and road segments that are designated as High Crash Locations (HCL) by the Maine Department of Transportation (see Figure 1-3, page 1-7, Figure 1-4, page 1-8, Table 3-3 below and Table 3-4, pages 3-6). Eleven of these locations are located in the immediate Gorham Village area. These include six intersections: Route 25 at Flaggy Meadow Road; Route 114 at Routes 4/25/202; Routes 4/25/202 at Cross Street; Routes 4/25/202 at Water Street; Route 114 at Green Street; and Route 114 at Morrill Avenue. The five HCL road segments in the immediate Gorham Village area include: four segments of Routes 4/25/202 between Pine Street and New Portland Road; and the segment of Route 114, between Routes 4/25/202 and Preble Street.

Table 3-3
Crash Data for Selected Intersections in the Study Area

Node (Intersection) Name	Total # of Crashes (1996-1998)	Critical Rate Factor (CRF)	High Crash Location (Yes/No)
Route 25 at Cressey Rd.	2	0.33	NO
Flaggy Meadow Rd. at Cressey Rd.	3	1.14	NO
Route 4/202 at Cressey Rd.	3	0.73	NO
Route 25 at Flaggy Meadow Rd.	19	2.47	YES
Route 25 at Route 4/202 (West)	10	0.92	NO
Route 114 at Routes 4/25/202	47	1.01	YES
Route 25 at New Portland Rd.	12	0.35	NO
Route 25 at Route 4/202 (East)	4	0.41	NO
New Portland Rd. at Brackett Rd.	29	6.70	YES
Route 114 at Day Rd.	4	0.70	NO
Routes 4/25/202 at Cross Street	21	1.81	YES
Routes 4/25/202 at Water Street	14	1.13	YES
Route 25 at Libby Avenue	11	1.57	YES
Route 25 at Mosher Road	10	1.08	YES
Route 114 at Green Street	21	2.52	YES
Route 114 at Morrill Avenue	8	1.04	YES
Route 114 at Washburn/McLellen	9	1.16	YES
Route 22 at Burnham Road	17	1.71	YES

Table 3-4
Crash Data for Selected Links in the Study Area

Link (Road Segment) Name	Total # of Crashes (1996-1998)	Critical Rate Factor (CRF)	High Crash Location (Yes/No)
Route 4/25/202 (Pine Street to Route 114)	20	1.45	YES
Route 4/25/202 (Route 114 to Cross St.)	11	2.02	YES
Route 4/25/202 (Cross Street to Water St.)	19	1.62	YES
Route 4/25/202 (Water St. to New Portland Rd.)	20	1.74	YES
Route 114 (Routes 4/25/202 to Preble Street)	26	3.76	YES

3.3 Physical and Biological Environment

3.3.1 Soils and Geology

Soils and surficial geology was reviewed in order to determine the location of soils that may be a constraint to the location of a bypass road, such as a wetland. The soil information was reviewed in combination with National Wetland Inventory mapping of wetlands, aerial photo interpretation of wetland limits and other wetland information sources to establish preliminary wetland boundaries as depicted in Figures 3-5, page 3-16 and 3-6 page 3-17. Similarly, soils such as clays or till were taken into consideration from an engineering perspective.

Five soil types within the Study Area were identified as hydric, which are a wetland indicator. These include Biddeford (Bo) silt loam, Rumney (Ru) fine sandy loam, Scantic (Sn) silt loam, Sebago (Sp) mucky peat, and Swanton (Sz) fine sandy loam. Although all of these soils mentioned above are located throughout the Study Area, they are primarily associated with three specific locations: streams south of Day Road and streams east of Brackett Road; the area north of New Portland Road and east of Route 202; as well as streams located in the northwest corner of the Study Area including portions of the Little River watershed.

Surficial geology of the Study Area, as depicted in Figure 3-1, page 3-7, indicates both marine and glacial deposits including till. Marine deposits predominate in the Study Area with glacial moraines and tills located as large blocks located north of Gorham Village or as isolated deposits to the south of Gorham Village. The surficial geology map presented in Figure 3-1, page 3-7 includes the following deposits as described by the Maine Geological Survey (1999). Where available, the approximate thickness of the deposit is noted.

- Stream Alluvium – Occurs as fine sands and silt with some gravel in floodplains along streams and rivers. As depicted on Figure 3-1, page 3-7, this deposit is limited to the

FIGURE 3-1

Stroudwater River at the southern limit of the Study Area. Total area within the Study Area is 5.6 hectares (14 acres).

- Wetland, swamp – These muck, peat, silt and sand deposits are depicted on the map as small isolated units with the largest occurring south of Gorham Village, west of Route 114. Total acreage within the Study Area is 14 hectares (35 acres).
- End Moraine – This deposit is located north of Flaggy Meadow Road, west of Cressey Road. The deposits consist of coarse gravel and sand and generally occurs in areas of glacial-marine sediments that are complexly stratified. Total area within the Study Area is 6.5 hectares (16 acres).
- End Moraine Complex – These glacial deposits are primarily located north of Route 25 and are generally oriented in a south-southwest direction. Smaller deposits occur in the southern half of the Study Area. These areas are described as coarse gravel, sand, till and silt; commonly over shallow bedrock. They are generally 5 meters (16.4 feet) thick. Total area within the Study Area is 486 hectares (1,202 acres).
- Fan End Moraine Complex – These deposits are located around West Gorham. A composite unit, this complex incorporates elements of end moraines and subaqueous fans. A coarse to fine sand, this material overlies sediments of end moraines and end moraine complexes. Total area within the Study Area is 231 hectares (572 acres).
- Marine Nearshore Deposit – These deposits occur in small patches generally in the southeastern quadrant of the Study Area, east of Gorham Village around Mosher Corner and south to Waterhouse Road. They are described as areas of till that have been reworked by the sea during a regressive phase of marine submergence. The till has had finer constituents removed and redeposited as a thin veneer over the till. Average thickness is 3 meters (10 feet) and bedrock is commonly found at shallow depths. Total area within the Study Area is 343 hectares (848 acres).
- Marine Regressive Sand Deposit – These deposits are located along Flaggy Meadow Road east to Gray Road, south to McLellan Road. These deposits cover approximately 25 percent of the Study Area. These materials are generally between 0.9 meters (3 feet) and 3 meters (10 feet) thick. Total area within the Study Area is 1,740 hectares (4,300 acres).
- Presumpscot Formation – These deposits are located in the vicinity of Mosher Corner, South Gorham, and West Gorham. Deposits are described as laminated gray to blue-gray silt and silty clay. It occurs as a blanket over bedrock and other sediments. Average thickness varies from 0.9 meters to 50 meters (3 feet to 165 feet). Total area within the Study Area is 1,881 hectares (4,648 acres).
- Till – Till deposits in the Study Area are located north of Gorham Village crossing Route 114. These areas are described as a poorly sorted mixture of silt, sand, pebbles, cobbles and boulders. They form a blanket deposit over bedrock, occurring thin over topographic highs and thick over topographic lows. Average thickness is 2.7 meters to 5 meters (9 feet to 16.4 feet). Total area within the Study Area is 338 hectares (836 acres).

Prime and Unique Farmland soils are described in Section 3.5.2 page 3-26.

3.3.2 Water Resources

Groundwater

The Study Area contains three Sand and Gravel Aquifer areas, where groundwater yield is estimated to be greater than 38 liters (10 gallons) per minute as depicted in the Water Resources Map (Figure 3-2, page 3-10) (Maine Geological Survey Map #98-143). The first aquifer is located in the extreme southern portion of the Study Area, following along Route 22 (County Road) at the Gorham/Scarborough townline. It is identified on the Water Resources Map as a “high yield” aquifer capable of yielding in excess of 189 liters (50 gallons) per minute. This area of high yield is surrounded by the second aquifer, classified as a “medium yield” aquifer, which has a potential yield of up to 38 -189 liters (10 - 50 gallons) per minute.

An additional medium yield aquifer (i.e. aquifer with potential yields of 38-189 liters (10-50 gallons) per minute) is the third aquifer located within the Study Area. It is located in the vicinity of Gorham Village, oriented in a southwest to northeast direction extending along the Routes 4/202 corridor to approximately the Cumberland County and York County line.

Private water wells are a principle source of drinking water for approximately one-third of the residents of the Study Area, with both overburden and bedrock wells being used for water supplies. The majority of the bedrock wells are 30-91 meters (100-300 feet) in depth and typical well yields are approximately 38-76 liters (10-20 gallons) per minute, although yields of up to 378 liters (100 gallons) per minute do occur (Caswell, 1976 [a]). The thickness of the area's overburden is generally in the range of 3-6 meters (10-20 feet) (Caswell, 1976 [c]).

A review of the Maine Department of Human Services, Drinking Water Program (1999) files indicated that there are seven public water supply wells within the Study Area, including: the Wake Up Call Restaurant well, and the O'Brien Mobile Home Park well, both located along Route 25 west of Cressey Road; two wells located at the Gorham Country Club located off McLellan Road; and, three wells located at the Wassamki Springs area in South Gorham. These public wells are regulated by the Maine Department of Human Services, Drinking Water Program, 10-144E, CMR 231, § 2 in the Maine Rules Relating To Drinking Water. The regulations define public water as “any water transmitted through a set of pipes for human consumption which serves at least 15 service connections or regularly serves at least 25 residents 60 days or more per year”. Private water wells are not regulated under 10-144E, CMR 231, § 2 in the Maine Rules Relating To Drinking Water. Each public water well has a 91.4 meter (300 foot) radius wellhead protection area around it. These areas are established to protect small public water supply wells.

Surface Water

In addition to groundwater supply sources, residents and businesses obtain water from surface water sources. The Portland Water District, which draws its water supply from Sebago Lake (outside the Study Area) supplies water to approximately 1,600 commercial and residential customers in the Study Area (Coffin, 2000). Figure 3-2, page 3-10 depicts the Portland Water District service area within the Study Area.

The Study Area lies within the drainage basins of two waterways, the Presumpscot River and the Stroudwater River. Figure 3-3, page 3-11 depicts the surface water resources within the Study Area. Routes 4/202 west of Gorham Village and Route 25 east of Gorham Village delineate the drainage divide. The Presumpscot River flows from northwest to southeast and is

FIGURE 3-2

FIGURE 3-3

located outside the Study Area. Tributaries of the Presumpscot River, including Little River, Martin Brook, Fort Hill Brook, Tannery Brook, Files Brook, Brandy Brook, Mosher Brook, and several unnamed tributaries, drain the northwesterly portion of the Study Area. The Stroudwater River watershed drains the southeast portion of the Study Area. Its tributaries include Gully Brook, Deering Brook, Strout Brook, Indian Camp Brook, and several unnamed tributaries. These and other surface water features are shown on Figure 3-3, page 3-11. The Stroudwater River, all its tributaries, and all tributaries to the Presumpscot River below its outlet from Sebago Lake are listed as Class B waterways (38 MRSA §§ 467, 468). A review of the 1998 Section 303 (d) List of Water Quality Limited Rivers and Streams identified Mosher Brook as a Class B waterway, due to its non-attainment of dissolved oxygen concentrations. According to the Maine Water Standards Classification System (38 MRSA § 465), discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community. The Maine Non-Point Source Priority Watershed Program, established to prioritize efforts to manage the quality of water bodies, has listed the Presumpscot River and the Stroudwater River as Non-Point Source Priority Watersheds due in part to sediment and nutrient loads (MDEP, 1998 [b]).

The Study Area includes an excavated pond 9.3 ha (23 ac) in size in the southeast corner of the Study Area. 38 MRSA § 480-B defines Great Ponds as any inland body of water artificially formed or increased which has a surface area in excess of 12 ha (30 ac). This pond does not meet the definition of a Great Pond. Therefore, no Great Ponds are located in the Study Area.

There are no rivers within the Study Area that are currently part of the federal Wild and Scenic Rivers Program.

3.3.3 Vegetation

Vegetative communities include the composition, structure, and distribution of the various assemblages of plants found within the Study Area. This category is utilized to assess the ecological importance of a site, and determine the potential impacts of a proposed project on the existing habitats of a site. The Vegetation Coverage Map, Figure 3-4, page 3-13 depicts forested and non-forested communities, illustrating the extent of these resources, and their contiguous nature, allowing an assessment of the potential impacts to existing communities. This map was based on the Casco Bay Estuary Project, Geographic Information Systems (1996), obtained by the U.S. Fish and Wildlife Service. It was developed with satellite imagery and classifies communities into more than 26 different types, including the location and extent of forested communities. From the data on this map the various communities were combined into five vegetative cover types, to provide a basis for displaying forested and non-forested communities. It has served as the primary basis for the vegetative community analysis.

The five vegetation cover types are: Open Land (including grasslands and marshlands), Scrub-Shrub Wetlands, Softwood Forest, Hardwood Forest, and Forested Wetlands. In addition, Figure 3-4, page 3-13, depicts areas with Water and Developed Land which includes residential and commercial land uses.

The Open Land community includes active agricultural areas such as hay fields, and other low-growing communities such as Palustrine Emergent or marshy wetland areas. The Open Land community within the Study Area is approximately 1,393 ha (3,443 ac).

FIGURE 3-4

The Scrub-Shrub Wetland communities found in the Study Area are along roadsides, utility corridors, and adjacent to streams and drainageways. These communities are characterized by woody vegetation approximately 6 meters (20 feet) tall. Typical species include speckled alder (*Alnus incana rugosa*), gray birch (*Betula populifolia*), and staghorn sumac (*Rhus typhina*). The Scrub-Shrub Wetland within the Study Area is 370 ha (914 ac).

The Softwood Forest communities are distributed throughout the Study Area with large concentrations in the south-central and north-central portions of the Study Area. The forest is dominated by white pine (*Pinus strobus*) and spruce (*Picea*) species. The total area of Softwood Forest within the Study Area is 1,385 ha (3,424 ac).

The Hardwood Forest communities are distributed across the Study Area with the largest concentrations occurring in the western and southern portions of the Study Area. Typical tree species are sugar maple (*Acer saccharum*), beech (*Fagus grandifolia*), yellow birch (*Betula alleghanensis*), and oak (*Quercus spp.*). The total area of Hardwood Forest within the Study Area is 1,434 ha (3,543 ac).

The Forested Wetland communities found in the Study Area are typically large communities located adjacent to streams or drainageways or are found in lower portions of the landscape. The forested communities are characterized by woody vegetation over six meters (20 feet) tall. Typical species include red maple (*Acer rubrum*) and eastern hemlock (*Tsuga canadensis*). Total acreage within the Study Area is approximately 168 ha (416 ac).

The Water cover type is comprised of various streams, ponds and other types of waterbodies that were picked up from satellite imagery based on the Casco Bay Estuary Project, Geographic Information System (1996). The total area of water within the Study Area is 9.3 ha (23 ac).

The Developed Land cover type includes those areas already developed for residential, commercial and industrial purposes, as well as the landscaped areas around these facilities. The Developed Land in the Study Area is generally associated with the Gorham Village area as well as adjacent to the existing roads. The total area of Developed Land within the Study Area is 227 ha (562 ac).

3.3.4 Wildlife

The Study Area includes a broad range of potential wildlife habitats. The various vegetative communities across the Study Area combine to provide the appropriate food and cover necessary to meet the requirements of a variety of wildlife species. These communities can be characterized as being primarily forested, however the interspersed areas of open land and scrub-shrub areas combine to add to the overall habitat value of the Study Area.

Unfragmented habitat blocks represent contiguous areas of forest and other plant communities that are characterized as having limited disturbance from physical barriers such as the presence of roads or other development. As depicted on Figure 3-4, page 3-13 examples of unfragmented habitats within the Study Area include the area southwest of Gorham Village between Route 114 (south) and Route 202, and the area northwest of the USM Gorham Campus between Route 114 (north) and Route 25 (west).

Forested habitats, whether wetland or upland areas, typically provide a variety of values including food, cover, and breeding habitat to birds and some amphibian species, as well as small and large mammals such as the white-tailed deer (*Odocoileus virginianus*), Figure 3-4,

page 3-13. Open fields are an important element of habitat requirements for a variety of bird species including the eastern meadowlark (*Sturnella magna*) but also provide cover, nesting opportunity and breeding habitat for small mammals such as the deer mouse (*Peromyscus maniculatus*) and foraging habitat for mammals such as the fox (*Vulpes vulpes*) and coyote (*Canis latrans*).

According to the mapped information provided by the Maine Department of Inland Fisheries and Wildlife (MDIF&W, 2000), Significant Wildlife Habitats include a Deer Wintering Area located on the south side of Day Road, east of Route 114, and a Moderate Value Waterfowl Wading Bird Habitat at Tannery Brook Pond, north of Gorham Village (Eldridge, 2000 and Eldridge, 2001). This wildlife data is provided on the Threatened and Endangered Species/Wildlife Habitat Map (3-7, page 3-20). No other mapped Significant Wildlife Habitats were noted by MDIF&W.

DeGraaf and Rudis (1986) indicate 14 amphibian and 12 reptile species that may exist in the Study Area. The Maine Department of Inland Fisheries and Wildlife (MDIF&W, 2002) identified 120 bird species and 36 species of mammals as likely inhabitants within the Study Area. A listing of these species is included in Appendix B.

3.3.5 Aquatic Habitat

No fisheries resources were noted by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). Information provided by the Maine Department of Inland Fisheries and Wildlife (MDIF&W) indicates that the Little River is stocked with brook trout and brown trout on an annual basis, while the Stroudwater River is “periodically” stocked with brook trout. Most of the smaller tributary streams and headwater sections of the larger streams were identified as containing wild populations of brook trout.

3.3.6 Wetlands

A corridor-level wetland inventory of the Study Area was performed using the Gorham National Wetlands Inventory (NWI) map (USFWS, 1980), the Soil Survey of Cumberland County, Maine (Hedstrom, 1974), and previous studies conducted within and adjacent to the Study Area. Additional wetland information was obtained through photo interpretation of aerial photographs using remote sensing standards and techniques. In addition, wetland boundaries were identified in the field, using the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (ACOE, 1987). None of the wetlands identified in the field were flagged and surveyed. Specific locations with conflicting data were checked during a windshield survey taken during the summer of 2000. The corridor-level wetlands map prepared for the Study Area is depicted in Figure 3-5, page 3-16.

During the alternative phase of the study, wetland boundary information was determined by limited field reconnaissance and sketching of wetlands for each alternative. Field investigations occurred between June and September, 2001. Areas within the proposed 60 meters (200 foot) wide right of way of the five bypass alternatives were field checked for wetland conditions. Wetland boundaries were identified and delineated based on parameters for vegetative composition, soil type, and hydrologic character. Figure 3-6, page 3-17 depicts these wetlands.

Approximately 200 wetlands areas were noted within the Study Area. Wetland systems (Cowardin, et al., 1979) identified within the Study Area include Lacustrine and Palustrine. A total of five wetland classes were noted in the Study Area based on Cowardin et al (1979) as noted on the National Wetlands Inventory (NWI) maps. The wetland classes identified in the

FIGURE 3-5

FIGURE 3-6

Study Area include Palustrine Forested (PFO), Palustrine Scrub-Shrub (PSS) and Palustrine Emergent (PEM), as well as Palustrine Unconsolidated Bottom (PUB), and Lacustrine Unconsolidated Bottom (L1UB). Each wetland class is described as follows:

- Palustrine Forested (PFO) wetlands are characterized by woody vegetation and trees that is greater than six meters (20 ft) in height. Subclasses include broad-leaved deciduous, needle-leaved deciduous, and broad-leaved evergreen.
- Palustrine Scrub-Shrub (PSS) wetlands are characterized by areas dominated by woody vegetation less than six meters (20 ft) tall. Subclasses include broad-leaved deciduous, needle-leaved deciduous, broad-leaved evergreen, and needle-leaved evergreen.
- Palustrine Emergent (PEM) wetlands are characterized by erect, rooted, herbaceous wetland plants, excluding mosses and lichens, which are present for most of the growing season.
- Palustrine Unconsolidated Bottom (PUB) wetlands are characterized by including all wetland and deepwater habitats with at least 25 percent cover of particles smaller than stones and a vegetative cover less than 30 percent.
- Lacustrine Unconsolidated Bottom (LIUB) wetlands are characterized to include all permanently flooded lakes and reservoirs, intermittent lakes, and tidal lakes with ocean derived salinities below 0.5 percent.

Table 3-5 outlines the wetland types and size within the Study Area. These include the wetlands identified in Figures 3-5, page 3-16 and Figure 3-6, page 3-17. The wetland boundaries and size are approximate, as they were not flagged and surveyed.

**Table 3-5
Study Area Wetland Areas**

Wetland Type	Hectares (Acres)
Palustrine Forested	133.1 ha (328.8 ac)
Palustrine Scrub-Shrub	70.8 ha (175.0 ac)
Palustrine Emergent	37.8 ha (93.4 ac)
Palustrine Unconsolidated Bottom	15.1 ha (37.4 ac)
Lacustrine Unconsolidated Bottom	6.5 ha (16.0 ac)

Source: Based on NWI Maps, Soils Information and Photo Interpretation

3.3.7 Floodplains

Flood area resources were mapped based on existing information provided within the “Flood Insurance Rate Map (FIRM) – Town of Gorham, Maine, Cumberland County” dated October 15, 1981 and the “Flood Insurance Study – Town of Gorham, Maine, Cumberland County” dated October, 1981.

The Federal Emergency Management Agency (FEMA) floodplain resources areas are classified as one of ten designations, from Zone A to Zone V. These designations outline whether the floodplain has been determined by approximate methods or through a detailed study. The floodplains in the Study Area are classified by the FEMA system as Zone A – Special Flood Hazard Areas inundated by the 100-year flood; determined by approximate methods; no base flood elevations shown and no Flood Hazard Factors determined.

FEMA determined that no Regulatory Floodways have been designated for any of the floodplains in the Study Area because the floodplain determination is approximate. Floodplains are depicted in Figure 3-3, page 3-11.

3.3.8 Threatened and Endangered Species

No federally-listed threatened and endangered wildlife and aquatic species are known to occur in the Study Area, with the exception of occasional, transient bald eagles (*Haliaeetus leucephalus*) (Mahaney, 2000). “Occasional, transient” refers to birds which are only known to pass through a location rather than a nesting species.

The Maine Natural Areas Program’s Biological and Conservation Data System files lists four records of state-listed rare and exemplary botanical features in the Study Area (Stahl, 2000). The four rare and exemplary botanical features included Mountain laurel (*Kalmia latifolia*), which is also considered a Species of Special Concern. Other state-listed rare and exemplary botanical features within the Study Area include the American chestnut (*Castanea dentata*), spicebush (*Lindera benzoin*), and the small whorled pogonia (*Isotria medeoloides*), which is considered a state-listed endangered specie as well as a federally-listed endangered specie.

Habitat files at the MDIF&W indicate one record of a proposed threatened species in the Study Area (Eldridge, 2000). The species noted is the Upland Sandpiper (*Bartramia longicauda*) based on a 1925 record identified as occurring south of Mosher Corner (See Figure 3-7, Page 3-20). The breeding habitat of the Upland Sandpiper, a Maine Species of Indeterminate Status, includes “wide open pastures or grassy fields, often hayfields of alfalfa or clover; occasionally an opening in forest” (DeGraaf and Rudis, 1986).

3.4 Atmospheric Environment

3.4.1 Air Quality

Cumberland County in Maine, which includes the Study Area, is currently classified by the EPA as in attainment (compliance) for all criteria pollutants except ozone. The region is currently classified as a Moderate Nonattainment area for ozone, pursuant to the Clean Air Act Amendments (CAAA) of 1990.

In order to determine compliance with the National Ambient Air Quality Standards (NAAQS), long-term air quality monitoring is conducted by the Maine Department of Environmental Protection, Bureau of Air Quality Control. The MDEP operates several continuous monitoring sites in Maine that measure ambient concentrations of criteria pollutants.

The nearest MDEP-operated ozone monitoring station to the Study Area is located approximately 14 km (8.8 mi) south/southwest of the Study Area in South Hollis, York County, ME (Site No. 230310038-1) (USEPA, 2001). There were no exceedances of the State and Federal 1-hour ozone standard of 0.12 parts per million (ppm) at this station during 2000 (the most recent complete year for which data are available). The maximum measured hourly ozone concentration in 2000 was 0.085 ppm. This value is below the NAAQS of 0.12 ppm. However, prior exceedances in 1997 and 1998 resulted in the Nonattainment status.

The nearest MDEP-operated nitrogen dioxide (NO₂) monitoring station to the Study Area is located approximately 70 km (44.2 mi) west/southwest of the Study Area in Kittery, York County, ME (Site No. 230313002-1). There were no exceedances of the State and Federal

FIGURE 3-7

annual NO₂ standard of 0.53 ppm at this station during 2000 (the most recent complete year for which data are available). The maximum measured annual concentration in 2000 was 0.010 ppm. This value is below the NAAQS of 0.053 ppm.

The region in which the Study Area is located is currently in attainment for carbon monoxide (CO). In 2000, there were no MDEP-operated monitoring stations in the vicinity of the Study Area that can be used to represent existing CO levels in the Study Area. However, ambient CO concentrations in the Study Area are expected to be typical (i.e., well below ambient National Ambient Air Quality Standards (NAAQS)) of rural highway corridors and in compliance with the CO NAAQS of 35 parts per million 1-hour concentrations.

3.4.2 Noise

A noise monitoring program was conducted on December 6-8, 2000 to measure existing noise levels in the Study Area. There was no snow cover at the time of noise measurements. Eight measurement locations were selected to be representative of receptors that would be most affected by the proposed Alternatives and changes in traffic patterns on nearby roads. Figure 3-8, page 3-22 shows the noise measurement locations. Noise measurements were obtained at five locations near major roads and three ambient locations in residential areas. The primary existing noise sources in these areas are traffic on primary roads, and occasional local traffic on secondary streets.

The measured noise levels are summarized in Table 3-6. The measured peak-hour equivalent noise levels (Leq) ranged from 64 to 77 A-weighted decibels (dBA). The highest measured Leq level of 77 dBA was obtained at 69 State Street on Route 25. Existing noise levels at six receptors approach, equal, or exceed FHWA Noise Abatement Criteria. The measured off-peak ambient Leq levels ranged from 36 dBA at 20 Adeline Drive to 43 dBA at 11 Meadow Crossing Road. These measured ambient noise levels are typical of quiet rural residential areas.

**Table 3-6
Noise Measurement Results**

Receptor No.	Description	Measurement		Hourly Leq	FHWA Noise Abatement Criteria NAC)
		Date	Period		
1	Residence, 2 Crestwood Drive (Route 114)	12/5/00	AM-PK	65	67
		12/4/00	PM-PK	65	67
2	Residence, 69 State Street (Rte. 25)	12/5/00	AM-PK	76*	67
		12/4/00	PM-PK	77*	67
3	Residence, 159 Gray Road (Rtes. 4 & 202)	12/6/00	AM-PK	66*	67
		12/5/00	PM-PK	64	67
4	Residence, Mosher Farm, Mosher Rd (Rte. 237)	12/6/00	AM-PK	65	67
		12/5/00	PM-PK	67*	67
5	Residence, 21 Main Street (Rte. 25)	12/6/00	AM-PK	68*	67
		12/5/00	PM-PK	67*	67
6	Residence, 20 Adeline Drive (Ambient Site)	12/4/00	OFF-PK	36	67
7	Residence, 80 Waterhouse Road (Ambient Site)	12/5/00	OFF-PK	42	67
8	Residence, 11 Meadow Crossing (Ambient Site)	12/5/00	OFF-PK	43	67

* Receptors where existing noise levels approach, equal, or exceed FHWA NAC

FIGURE 3-8

3.5 Land Use, Historic, and Socioeconomic Environment

3.5.1 Land Use & Right of Way

Figure 3-9, page 3-24 shows the existing land uses within the Study Area, as defined by the Town of Gorham (April, 2001). Land use in the Study Area is predominately single-family residential intermixed with farmland, large tracts of open space and undeveloped land. Farmland is land that is actively being used for agricultural purposes, namely, growing of crops and raising of livestock. Open space is defined as lands permanently dedicated for agricultural uses, gardening, forestry, natural resource conservation, outdoor recreation or common open spaces. Vacant/undeveloped land can be classified as land that has little or no development upon it.

High density multi-family residential and commercial land uses are found within Gorham Village, comprised of approximately 55 ha (137 ac) commercial and approximately 45 ha (112 ac) multi-family. East of Gorham Village is the Gorham Industrial Park, approximately 74 ha (183 ac) in size, a fully serviced industrial area that contains water, sewer, natural gas and electric power infrastructure; southwest of Gorham Village, along Narragansett Street, is the Narragansett Development District approximately 30 ha (75 ac), which permits a variety of non-residential development, including commercial and light industrial uses. In addition, the University of Southern Maine Gorham Campus is located within Gorham Village. The Gorham Campus is approximately 44 ha (108 ac) in size and features a mixture of academic buildings, student facilities, and on-campus housing.

The Narragansett Game Preserve is a large area bounded roughly by South Street (Route 114) to the west, the former railroad right-of-way to the north, New Portland Road south to Brackett Road to the northeast, and the Stroudwater River to the south (Figure 3-9, page 3-24). The Narragansett Game Preserve was established in the 1930s by the then Maine Department of Fish and Game. The Narragansett Game Preserve was established as an area to provide hunting and trapping opportunities to residents of Gorham. It is approximately 810 ha (2,000 ac) in size. The Narragansett Game Preserve does not have any development restrictions, and therefore, development has occurred in accordance with zoning. At the present time, hunting is not allowed.

Within the Study Area, property within Gorham Village is characterized by developed parcels, primarily used for residential and commercial land uses. Major roads radiate from Gorham Village, which help define the existing property patterns. In general, properties within the Town of Gorham range in size from 0.08 hectares (0.19 acres) to 65 hectares (160 acres).

Zoning

On May 19, 1999, the Town of Gorham adopted zoning ordinances which have followed the guidance of the Town's Comprehensive Plan. Figure 3-10, page 3-25 indicates the general zoning districts within the Study Area. The majority of the Study Area is zoned for residential land uses, ranging from rural residential to urban residential land uses. Gorham Village is zoned Village Center district (VC) which permits local retail and commercial uses and residential uses, excluding mobile homes and trailers. Urban Commercial (UC) is also located in Gorham Village, which allows for retail business and service establishments, schools, churches, and municipal uses.

FIGURE 3-9

FIGURE 3-10

Located west of Gorham Village is the Urban Residential (UR) district, which allows for one or two-family dwelling units, apartment buildings, schools, religious institutions, and day care centers. Scattered throughout the Study Area is the Rural (R) zoning district, which allows one or two-family dwellings, exclusive of mobile homes, agricultural uses, public or private utility facilities, and mineral extractions. Suburban Residential (SR) is also located throughout the Study Area. This zoning district permits one and two-family homes, nursing homes, schools, hospitals, and churches.

Located southwest of Gorham Village is the Narragansett District (ND) zoning district, which allows for non-residential land uses, particularly commercial, and light industrial. East of Gorham Village in the Mosher Corner area is the Roadside Commercial (RC) district, which allows for auto-oriented businesses and light industrial uses. Other zoning districts within the Study Area include Industrial (I), which allows manufacturing, warehousing, research facilities, and wholesale business land uses. East of Gorham Village is the Office-Residential (OR) zoning, which allows a mix of residential, business, and professional offices in close proximity to the existing commercial areas of town. In addition, the Commercial Office (CO) district allows for retail and service establishments, business and professional offices, shopping centers, and schools, hospitals, and churches.

There is one overlay district within the Study Area, the Manufactured Housing Park Overlay District. The Manufactured Housing Park Overlay District allows a number of environmentally suitable locations in Gorham for the expansion of existing manufactured home parks and the development of new manufactured home parks. The Manufactured Housing Park Overlay District is overlaid onto two other zoning districts within the Study Area, the Rural Residential and Suburban Residential zoning districts.

Future Potential Land Uses

The Town of Gorham Comprehensive Plan (1993) indicates that the goal for future land use development is to accommodate growth and development in a way that maintains the traditional development pattern of the community, consisting of villages and neighborhood centers surrounding by working rural areas. A local goal stated within the Comprehensive Plan is to provide additional arterial or collector roads to provide more choice in roadway network for residents.

The Town of Gorham Comprehensive Plan has designated a number of areas in which future growth and development of the town should be accommodated, and areas where further growth and development should be discouraged. An area centered on Gorham Village is called the Village Expansion Subarea. This area has been classified to encourage the expansion of the Village residential and commercial uses (Figure 3-11, page 3-27). The Village Expansion Subarea is approximately bounded by Lovers Lane to the north, Libby Avenue to the east, Day Road to the south, and Weeks/Cressey Roads to the west.

Known potential future development plans within the Study Area include residential, institutional, commercial, and industrial development proposals. The locations of these potential future developments are shown in Figure 3-11, page 3-27.

3.5.2 Prime and Unique Farmland

Farmland soils within the Study Area were reviewed through the Natural Resources Conservation Service (NRCS) Important Farmlands Map for Cumberland County (1980). The

FIGURE 3-11

farmland soils data within the Study Area, as depicted in Figure 3-12, page 3-29, indicates two distinct soil types: Prime Farmland, and Additional Farmland of Statewide Significance (USDA, Cumberland County, 1980).

Prime Farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed. Prime Farmland soils are not excessively erodible or saturated with water for long periods of time. In total, there are approximately 1,406 hectares (3,475 acres) of Prime Farmlands within the Study Area.

A second soil type identified within the Prime Farmland map is Additional Farmland of Statewide Significance. This soil type is defined as being of importance to statewide production of food, feed, fiber, forage, and oilseed crops. Generally, Additional Farmlands of Statewide Significance include those that are nearly Prime Farmland and that economically produce high yield crops when treated and managed according to acceptable farming methods. In total, there are approximately 578 hectares (1,430 acres) of Additional Farmland of Statewide Significance within the Study Area. The total Study Area is 5,091 ha (12,581 ac).

In addition to these two soil types, Urban Land (built up areas) has been identified as an additional landcover within the Study Area. Urban Land is defined as containing a large percentage of impervious surfaces due to roadways, parking lots, other paved surfaces, rooftops, and other manmade structures that cover large areas of ground surface. Urban Land within the Study Area is concentrated to the Gorham Village area, extending as far north as the USM entrance off Route 114, east to Donna Street, south to Weeks Road, and west to Narragansett Street. It is approximately 178 ha (440 ac) in size (Figure 3-12, page 3-29). The total Study Area is 5,091 ha (12,581 ac). Other Land is defined as being neither Prime Farmland or Farmland of Statewide Significance. It is land that is comprised of both developed and open space uses.

3.5.3 Community Characteristics, Facilities and Services

Population

Table 3-7, page 3-30, shows the Town of Gorham, Portland Metropolitan Statistical Area (MSA), Cumberland County and the State of Maine population growth from 1970 to 1990. The population within the Town of Gorham has grown consistently faster than the Portland MSA, Cumberland County, and the State of Maine. The Town of Gorham has increased by 2,262 people (or 28.9 percent) between 1970 and 1980. In addition, the population of the Town of Gorham increased by 1,755 between 1980 and 1990, an increase of 17.4 percent. The Town of Gorham has been experiencing an in-migration of households over the past two decades. Discussions with planning officials in the Town of Gorham indicate that the increase in population is due to its convenient location to key economic and employment centers located in the area and its suburban living environment (Gorham Planning Department, 2000).

FIGURE 3-12

**Table 3-7
Population Growth**

Jurisdiction	Population						
	1970	1980	1990	1970-1980 % Change	1980-1990 % Change	2025 Projections	1990-2025 % Change
Town of Gorham	7,839	10,101	11,856	28.9	17.4	18,488	55.9
Portland MSA	174,403	193,831	215,481	11.1	10.0	n/a	n/a
Cumberland County	192,528	215,789	243,135	12.1	12.7	323,483	33.0
State of Maine	992,048	1,124,660	1,227,928	13.4	9.2	1,423,000	15.9

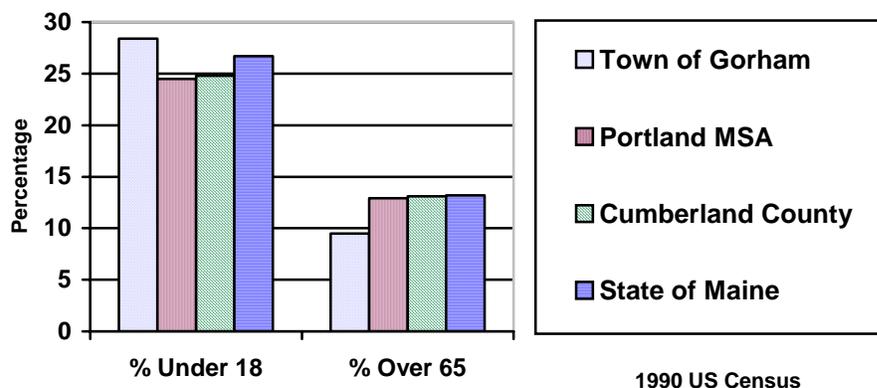
Source: US Census: 1970, 1980, 1990, Greater Portland Council of Governments; smrpc.maine.org, 2000.

In addition, 2025 population projections have been made by the Greater Portland Council of Governments, and the Southern Maine Regional Planning Commission for the Town of Gorham, Cumberland County and the State of Maine. Population projections to the year 2025 are not available for the Portland MSA. Gorham’s population growth rate is projected to continue to exceed that of Cumberland County and the State of Maine, increasing by 55.9 percent (6,632 residents), compared to 33 percent (80,348 residents) in Cumberland County and 15.9 percent (195,072 residents) in the State of Maine. The Town of Gorham is projected to grow substantially more than Cumberland County and the State of Maine due to its continued suburbanization.

Age Characteristics

The 1990 population in the Town of Gorham was relatively young, compared to the Portland MSA, Cumberland County, and the State of Maine (Figure 3-13, below). At 28.4 percent (3,371 people), the population under age 18 in Gorham was the highest compared to that of the Portland MSA at 24.5 percent (52,957 people), Cumberland County at 24.8 percent (60,353 people) and the State of Maine, at 26.7 percent (327,463 people). The population over age 65 was lowest in Gorham, at 9.5 percent (1,125 people), compared to the Portland MSA 12.9 percent (27,855 people), Cumberland County 13.1 percent (27,855 people), and the State of Maine 13.2 percent (163,160 people).

**Figure 3-13
Age Characteristics**



Income and Poverty Status

As indicated in Figure 3-14, the 1990 Census recorded per capita income and median household income. The per capita income within the Town of Gorham (\$14,049) was slightly below that of the Portland MSA (\$16,120), and Cumberland County (\$15,816). The State of Maine per capita income (\$12,957) was below that of the Town of Gorham. The median household income in Gorham (\$36,618) was higher than the Portland MSA (\$32,776), Cumberland County (\$32,286), and the State of Maine (\$27,854).

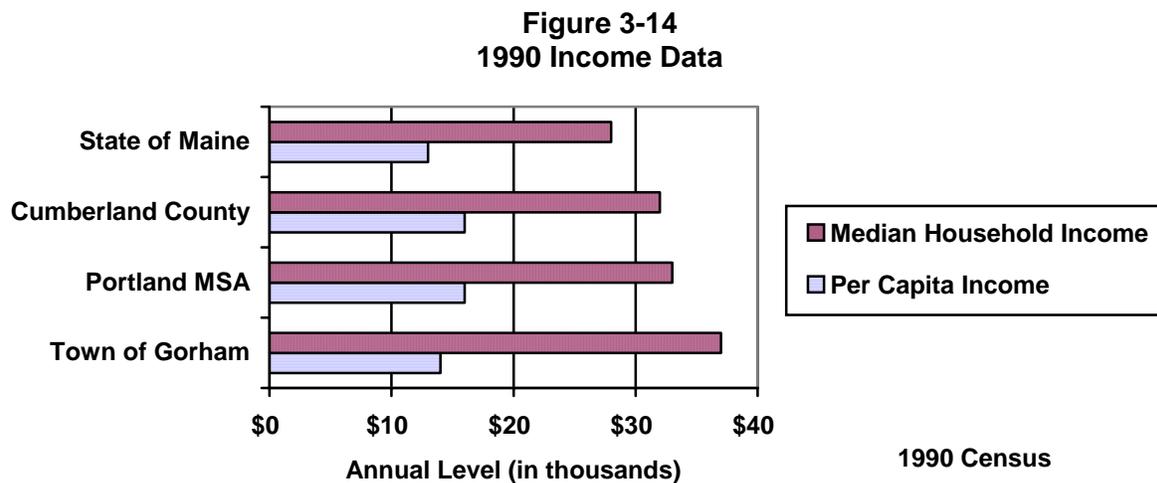


Table 3-8, includes poverty statistics from the 1990 Census. Poverty statistics are compiled the year prior to the census (1989). The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to identify those below the poverty level. If a family’s total income is less than that threshold, then that family, and every individual in it, is considered living in poverty. The official poverty definition counts money income before taxes and does not include capital gains and noncash benefits (such as public housing, medicaid, and food stamps) (U.S. Census, 1999). The percentage of the 1989 population living in poverty in Gorham was 3.7 percent (436 people), or about half of the percentage of the Portland MSA, at 7.7 percent (16,675) and Cumberland County, at 7.7 percent (18,772 people). The State of Maine recorded 10.5 percent (128,466 people) of the population living in poverty.

**Table 3-8
Poverty Status**

Jurisdiction	Persons in Poverty (1989)		Total Population (1990)
	Persons	%	
Town of Gorham	436	3.7	11,856
Portland MSA	16,675	7.7	215,481
Cumberland County	18,772	7.7	243,135
State of Maine	128,466	10.5	1,227,928

Source: US Census, STF-3, and STF-3C1; www.census.gov. 1989, 1990

Housing Characteristics

Table 3-9 below provides information from the 1990 Census pertaining to vacancy rates, tenure, and median housing values for the Town of Gorham, the Portland MSA, Cumberland County, and the State of Maine. In 1990, the vacancy rate in the Town of Gorham was 3.5 percent (137 units), considerably lower than the Portland MSA at 13.8 percent (11,721 units), Cumberland County at 16.3 percent (15,378 units), and the State of Maine at 26.2 percent (121,733 units). In 1990, the portion of owner occupied housing in Gorham was nearly 80 percent (3,127 owners), 63 percent (53,730 owners) in the Portland MSA, 64 percent (60,812 owners) in Cumberland County, and 70 percent (327,928 owners) in the State of Maine (Table 3-9, page 3-32). Median housing values were approximately 36 percent higher in the Town of Gorham when compared to levels reported in the State of Maine (\$119,100 compared to \$87,300). At \$526, the median contract monthly rent is the same for both the Town of Gorham and the Portland MSA. Median contract monthly rent in the Town of Gorham and the Portland MSA was higher than in Cumberland County (\$458) in the State of Maine (at \$419).

**Table 3-9
Housing Characteristics**

Jurisdiction	Vacancies	Tenure		Median Housing	
		% Owner	% Renter	Value	Rent
Town of Gorham	137 (3.5%)	3,127 (79.8%)	787 (20.1%)	\$119,100	\$526
Portland MSA	11,721 (13.8%)	53,730 (63.4%)	30,948 (36.5%)	\$117,800	\$526
Cumberland County	15,378 (16.3%)	60,812 (64.3%)	33,700 (35.6%)	\$118,300	\$458
State of Maine	121,733 (26.2%)	327,928 (70.5%)	137,384 (29.5%)	\$87,300	\$419

Source: US Census, STF-3, and STF-3C1, 1990.

A range of community facilities and services are available in the Town of Gorham and within the Study Area. The locations of these facilities in the Study Area are shown on Figure 1-2, page 1-4.

Schools

There are two elementary schools, the Narragansett School and the Village School, one middle school, the Shaw Middle School, and one high school, the Gorham High School within the Study Area. The total enrollment in schools within the Study Area for the 1998 school year was 2,227 (PDT Architects, 1999). In total, 2,616 students were enrolled in the Town of Gorham school system in 1998 (PDT Architects, 1999).

In addition, located within the Study Area is one of three campuses of the University of Southern Maine (USM). Of the approximately 4,000 students who attend regular classes at the Gorham Campus, approximately 1,000 reside on campus, therefore, the university caters largely to a commuter student population. USM provides bus service for students during the academic year to the Portland campus, providing an alternative to single occupancy vehicles.

Emergency Services

The Town of Gorham Fire and Rescue Department consists of six stations, one located within the Study Area at the Municipal Center along Route 25 (Main Street) (Figure 1-2, page 1-4). The Gorham Fire and Rescue Department provides emergency medical services. A paramedic is on duty at all times and is supplemented by 35 volunteers.

The Town of Gorham has one centrally located police station, located adjacent to the Municipal Center on Main Street.

Health Care Facilities

Gorham does not have a hospital within its borders, however, residents are served by hospitals and other health care facilities in the Greater Portland Area. Gorham is served by local health care centers and doctors offices.

Recreation Facilities

The Town of Gorham Parks and Recreation Department operates two parks within the Study Area, namely Phinney Park and Robie Park, along with the Robie Gymnasium, located in Gorham Village. (See Figure 1-2, page 1-4). The Gorham School Department also provides recreational opportunities to students and residents at the Gorham High School, the Shaw Middle School, the Village School, and the Narragansett School.

Libraries

The Baxter Memorial Library, located on Route 114 south of Gorham Village, is the only library within the Study Area. (Figure 1-2, page 1-4)

Religious Facilities

There are eight religious facilities located within the Study Area: the School Street United Methodist Church; St. Anne's Catholic Church on Main Street; the Antioch Baptist Church on Main Street; the Gorham Christian Academy on Elkins Road; the First Parish Congregational Church of the United Church of Christ on Church Street; West Gorham Union Church on Ossipee Trail; the South Gorham Baptist Church on Route 22; and, the Galilee Baptist Church on Route 25. (Figure 1-2, page 1-4)

Cemeteries

There are four municipal cemeteries (Figure 1-2, page 1-4) located within the Study Area: the Fort Hill Cemetery, located on Route 114 near Phinney Street; the Eastern Cemetery located at Johnston Road and New Portland Road; South Gorham Cemetery located near Route 22 and Route 114; and, the Old Village Cemetery located on Route 114, south of Gorham Village.

3.5.4 Neighborhood and Community Cohesion

The Town of Gorham is characterized by its rural nature with suburban type of residential development. Initially, residential development within the Town of Gorham began around the fringes of existing villages within the town, including Gorham Village. After World War II, suburban residential development continued to occur outside of existing villages, within the rural

countryside. Over the past five decades, residential development increased within the Town of Gorham, giving shape to several established neighborhoods. During this time, Gorham Village continued to develop as a neighborhood, characterized by higher density residential and commercial development than its surrounding area. Outside of Gorham Village, in other parts of the Town of Gorham, the suburbanization of areas not previously developed was also occurring.

There are many areas within the Study Area that have suburban residential development that lends itself to a sense of neighborhood cohesion. Neighborhood cohesion relates to the degree to which residents have a “sense of belonging” to their neighborhood. It also relates to the degree to which there is level of commitment of the residents to the community, or a strong attachment to neighbors, groups or institutions. Cohesion refers to the degree of interaction among the individuals, groups, and institutions that make up a community (Caltrans, 1987).

Located south of Gorham Village are the neighborhoods of Morrill Avenue, Green Street, Teran Street, and Adeline Drive, characterized by a series of cul-de-sacs and single family homes.

To the west and east of Gorham Village suburban development occurred along such streets as Cressey Road and Ossipee Trail, through to West Gorham, which in turn established neighborhoods within these areas. Cressey Road neighborhood is a mixed use neighborhood, consisting of single family homes and undeveloped tract of land owned by Hannaford Brothers. The Ossipee Trail/West Gorham neighborhood consists of a number of 18th and 19th century farm houses clustered around a church.

To the east of Gorham Village, other neighborhoods became established including the Libby Avenue/Bracket Road neighborhood, and recently, the Gateway Commons neighborhood (see Figure 3-11, page 3-27). The Libby Avenue/Bracket Road neighborhood consists mainly of single family homes, along with four to five older farm houses. The Gateway Commons neighborhood is a newly constructed 76-lot subdivision consisting of single family homes.

Other neighborhoods located to the south of Gorham Village include the Waterhouse Road, Crestwood Drive, and Day Road neighborhoods. These neighborhoods are comprised of a mixture of newer and older single family homes.

North of Gorham Village are the Meadowcrossing/Spring Brook Lane and the Phinney Street, Blockhouse Run and the Queen Street neighborhoods. The Meadowcrossing/Spring Brook Lane neighborhoods were constructed in the 1990s, comprised of single family homes on 0.4 ha (1 ac) lots. The Phinney Street neighborhood consists of single family homes constructed during the 1970's. Blockhouse Run neighborhood is located off Phinney Street, and consists of three single family homes. The Queen Street neighborhood, consist of a medium density suburban neighborhood that was initially constructed in the 1950's, with additional homes being constructed over the next four decades.

Each of these neighborhoods is characterized by similar housing styles on local residential streets. Residents have a sense of identity through their common address and location, and feel a sense of cohesion in that they live on the same block or street with other residents.

Discussions with Town officials indicated that development within the Town of Gorham has developed at a quick pace over the last decade, with an average of 90 residential building permits issued per year, with an overall growth of six percent per year for homes permitted and constructed. Future growth within Gorham is projected to increase steadily, due to the

accessibility of Gorham to Portland and surrounding towns and the availability of land for future new housing construction.

3.5.5 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, and the U.S. Department of Transportation Order on Environmental Justice (DOT Order 5610.2) set forth policies to ensure that federal actions do not disproportionately affect minority or low-income populations in the U.S. This process is referred to as Environmental Justice. DOT Order 5610.2 states that Environmental Justice is comprised of three fundamental principles in transportation planning: to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations; to ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and to prevent the denial of, reduction in, or significant delay of the receipt of benefits by minority and low-income populations. The U.S. DOT Order 5610.2 states that in order to achieve environmental justice as part of its mission it must “identify and address, as appropriate, disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, of its programs, policies, and activities on minority populations and low-income populations in the United States.”

The Town of Gorham has a very small minority population. At 1.4 percent (175 people), the total minority population in the Town of Gorham is less than that of the Portland MSA at 2.4 percent (5,332 people), Cumberland County at 2.5 percent (6,111 people), and the State of Maine at 2.0 percent (25,671 people) (Table 3-10). The percentage of the Black population, Hispanic population, Asian American, and American Indian/Alaskan Native within the Town of Gorham, the Portland MSA, Cumberland County, and the State of Maine comprised less than one percent of the total population in each jurisdiction. Approximately 98.6 percent (11,719 people) of the population of the Town of Gorham is white.

Table 3-10
Minority Characteristics

Jurisdiction	1990 Population				
	Black	Hispanic	Asian American	American Indian/Alaskan Native	Total Minority Population
Town of Gorham	44 (0.4 %)	53 (0.4%)	48 (0.4%)	30 (0.2%)	175 (1.4%)
Portland MSA	1,344 (0.6 %)	1,391 (0.6%)	1,952 (0.9 %)	645 (0.3%)	5,332 (2.4%)
Cumberland County	1,565 (0.6 %)	1,771 (0.7%)	2,147 (0.9 %)	628 (0.3 %)	6,111 (2.5%)
State of Maine	7,069 (0.4 %)	5,351 (0.6%)	6,859 (0.5%)	6,392 (0.5%)	25,671 (2.0%)

Source: US Census, STF-3; www.census.gov, 1990.

Environmental Justice also pertains to preventing disproportionate impacts to low-income populations. As indicated in Table 3-8, page 3-31, based on the 1989 Persons in Poverty census count, the percentage of the population living in poverty in Gorham was 3.7 percent (436 people), indicating a low amount of persons in poverty residing in the Town of Gorham. An

examination of the census tract level also indicated that the Study Area contains a low percentage of persons in poverty. In addition, the number of elderly within the Town of Gorham aged 65+ was 9.5% (1,125). An examination at the census tract level also indicated that the Study Area contains a low percentage of elderly persons.

While the statistics for minority, low-income, and elderly residents within the Town of Gorham are low, environmental justice determinations are made based on effects, not population size. Environmental Justice considerations focus on how an Alternative could displace persons, businesses, create isolation, or separation of minority or low-income individuals within a given community or from the broader community. The comparative impact of the bypass road among the different population groups will be examined to determine if minority, low-income, or elderly groups are disproportionately impacted. This will be discussed in Section 4.5.5, page 4-28.

3.5.6 Business Activity Levels

Although Gorham's employment comes primarily from the public and service sectors, its economic base is fairly diversified, including construction contractors and manufacturers among the largest employers. Total employment in Gorham was approximately 4,000 in 1999. Approximately half (approximately 2,000 people) of Gorham's jobs are filled by those living in the Town of Gorham.

In addition, the Town of Gorham has an active retail economy. In 1997, taxable sales in Gorham totaled \$52,634,700, which was one of the highest taxable sales figures within the Greater Portland Area. Consumer sales represented 85 percent of this amount, or \$44,794,400. A study conducted in 2000 by the Gorham Economic Development Corporation identified the Gorham primary retail trade area as comprising the Towns of Gorham, Buxton, Standish, Hollis, Limington, Baldwin, and Sebago (www.gorhammeusa.org, 2001). The retail sector has recorded substantial growth since 1994, including grocery, restaurant/lodging and building supply as the main retail categories. Retail sales increased from \$4,254,600 in 1994 to \$5,423,600 in 1997. Interviews with businesses in Gorham Village revealed the expectation that such growth in this trade area are projected to continue. The types of retail establishments found within the Town of Gorham include food and clothing/footwear establishments, auto services establishments, manufacturing businesses, financial services, restaurants, and personal care facilities.

The Town of Gorham has maintained a close economic relationship with the Portland Metropolitan Statistical Area (MSA). The Portland MSA is comprised of 21 towns and cities surrounding Portland. The Portland MSA constitutes the strongest economic region in Maine, due to its concentration of goods and services and related economic output and contributes to the State of Maine's financial well-being. The Town of Gorham is considered an integral component of the Portland MSA area and the Greater Portland economy, because of its diversified economic base and skilled labor force. Due to its concentration in population, and its easy accessibility to other markets throughout the New England area, the Portland MSA has been a focal point for retail, commercial, and industrial development. The Portland economic region is mostly concentrated in the service-oriented industry as opposed to manufacturing or goods producing, as illustrated in Table 3-11.

**Table 3-11
Non-farm Wage and Salary Employment June, 2000**

Item	Portland MSA # of Jobs	Statewide # of Jobs
Goods producing (subtotal)	23,000	119,000
Construction and Mining	7,700	32,600
Manufacturing	15,300	86,400
Service Producing (subtotal)	130,500	494,200
Trans., Utilities	7,500	24,600
Wholesale Trade	9,600	28,600
Retail Trade	32,600	126,800
Finance, Insurance, Real Estate	13,600	31,100
Services	47,800	184,100
Federal Government	2,800	14,400
State Government	4,400	24,300
Local Government	12,200	60,300
Total	153,500	613,200

Source: Maine Department of Labor, Division of Labor Market Information Services, 2000.

As of June 2000, 85 percent (130,500 jobs) of the Portland MSA economy was involved in service producing activities such as retail trade, hotels and insurance. The Portland MSA accounts for 26.4 percent (130,500 jobs) of the State of Maine's total service industry.

3.5.7 Economic Environment

Annual data on the resident civilian labor force, employment, and unemployment for Gorham, the Portland MSA, Cumberland County, and the State of Maine were obtained from the Maine Department of Labor, Division of Labor Market Information Systems and are tabulated in Table 3-12 below. Civilian labor force comprises all civilians 16 years of age and over that are classified as employed or unemployed during a particular reference week. At 2.0 percent (159 people), the Town of Gorham enjoys a low unemployment rate, similar to the rates of the Portland MSA and Cumberland County. The unemployment rate of 2.0 percent (159 people) in Gorham is low when compared to that of the Portland MSA (2.1 percent or 2,900 people), Cumberland County at 2.3 percent (3,310 people), and the State of Maine as a whole (4.1 percent or 27,600 people). In addition, the unemployment rate for the Portland MSA and Cumberland County is also half that when compared to that of the State of Maine. The employment opportunities within Gorham include a balanced mix of businesses that provides work for people living in Gorham and the surrounding communities.

The Gorham economy is dominated by the service sector which has been growing steadily since 1990. Manufacturing and retail trade together make up 35 percent (1,359 jobs) of the covered employment in Gorham (Maine Department of Labor, 1999).

**Table 3-12
Civilian Labor Force and Employment (1999 Annual Average)**

Jurisdiction	Labor Force	# Employed	Unemployed
Town of Gorham	7,800	7,641	2.0% (159)
Portland MSA	134,800	131,900	2.1% (2,900)
Cumberland County	142,170	138,860	2.3% (3,310)
State of Maine	672,000	644,400	4.1% (27,600)

Source: Maine Department of Labor, 2000.

As shown in Table 3-13, page 3-38, the Town of Gorham is the largest employer in Gorham, employing 400 people, followed by the University of Southern Maine located in Gorham Village, which employs approximately 400 people, and Gorham House a convalescent care facility on New Portland Road, employing over 200 people. In addition, American Tool Company, a tool manufacturer, located in the Gorham Industrial Area near Mosher Corner, employs 210 people, and Sebago Inc., a shoe manufacturer, also located in the Gorham Industrial Area employs 140 people (www.gorhammeusa.org, 1998).

**Table 3-13
Gorham's Largest Employers-1998**

Employer	Amount Employed
Town of Gorham	400
University of Southern Maine-Gorham Campus	396
Gorham House Convalescent Care	220
American Tool Company	210
Sebago, Inc.	140
Source: www.gorhammeusa.org . (1998) statistics	

3.5.8 Visual Environment

The visual environment within the Study Area pertains to the historic resources found within Gorham Village. Historic resources within the Study Area, which are afforded protection under Section 106 of the National Historic Preservation Act (NHPA), were identified through contact with the State Historic Preservation Officer. There are three historic districts listed on the National Register of Historic Places (NRHP) within the Study Area, including the South Street, Gorham Village, and Gorham Campus Historic Districts. In addition, there are five individual properties listed on the National Register. These historic districts and properties are identified on Figure 3–15, page 3-40.

Maine Historic Preservation Commission (MHPC) also identified a number of properties which appear to be eligible for listing on the National Register of Historic Places. These are identified in Figure 3-16, page 3-42.

The visual environment of Gorham Village is consistent with small New England towns within proximity to larger urban areas. Gorham Village, which was incorporated in 1764, retains its historic scale and character in most locations outside the Main Street Urban Commercial District. The Gorham Main Street Master Plan (May 1998) has characterized the visual environment in a series of "Character Zones". The analysis identifies distinctions between common characteristics such as building setbacks and streetscape elements. The Master Plan identified five character zones within Gorham Village.

Village Character Zone: consists of a denser building arrangement with buildings located close to the street at the sidewalk with little or no side setbacks. Sidewalks are mostly brick pavers and are curbed. Buildings are two stories or higher, with mixed use, including retail on the first floor.

Residential/Business Character Zone: consists of older, residential type buildings, most of which have been converted to business use. Buildings are located near, but not at the sidewalk: street trees and an esplanade are common.

Urban Residential Character Zone: consists of older residences with consistent building spacing at a residential scale. Street trees and an esplanade are common. Most of this area is included in an historic district.

Suburban/Commuter Character Zone: consists of one story brick buildings with box-style architecture. Buildings have larger setbacks with parking in front. Many uses are automobile-oriented, i.e. drive through restaurants.

Quasi-Village Character Zone: consists of buildings with wider spacing than village character zone. Buildings are near but not at edges of sidewalks. Plant material defines the street, through the use of street trees. Parking is in rear of buildings and in side yards.

3.5.9 Historic and Archaeological Resources

Historic Resources

There are three historic districts listed on the National Register of Historic Places (NRHP): South Street, Gorham Village, and Gorham Campus Historic Districts (Figure 3-15, pages 3-40). The South Street Historic District consists of twenty buildings, the majority of which are of frame construction and residential. It is located on South Street, between Green Street and Morrill Avenue. Architecturally, the district's resources reflect Federal, Greek Revival, and Gothic Revival styles from the late eighteenth and early nineteenth centuries.

The Gorham Village Historic District consists of 42 buildings ranging from single family housing to religious structures. It is located along College Avenue, Main, Maple, School, and State Streets. Architecturally, the district's resources reflect popular stylistic forms from the turn of the eighteenth century through the 1930s (i.e. Federal, Greek Revival, Gothic).

The third historic district is the Gorham Campus District, which consists of seven buildings, dating from the early nineteenth and early twentieth centuries. The district is located near the junction of Routes 114 and 25. All of the buildings in the district belong to the University of Southern Maine, and fulfill educational functions. The buildings within this district illustrate the educational development in Gorham, with the establishment of Gorham Academy in 1806.

In addition, the Study Area includes five individual properties listed on the National Register: Academy Building, Art Gallery, Baxter House, Dyer Estate, and McLellan House. (Figure 3-15, page 3-40)

The Academy Building is located on the western side of School Street, on the hillside portion of the University of Southern Maine. It was built in 1806 as a male preparatory school for the residents of the Town of Gorham. The building is in the Federal style of architecture and is an architectural focal point of the USM Gorham campus. It is also part of the Gorham Campus District.

The Art Gallery, which was formerly known as the Free Meeting House (1822) and the Town House (1845) is located on the University of Southern Maine campus at the intersection of College Avenue and Entrance Road. It was constructed in 1821 and was used as a "Free Meeting House", for use by any denomination wishing to hold services. It was constructed in the Colonial style of architecture. In 1845 it became the "Town House", used for town meetings, and was used for this purpose for many decades. In 1961 ownership was transferred to the

FIGURE 3-15

State of Maine and was used as an interfaith chapel. In 1967 the University converted it to an art gallery as it is presently used. It is also part of the Gorham Campus District.

The Baxter House is located south of Gorham Village on South Street. It was built in 1805 and was a residence until 1907 when it was donated to the Town of Gorham as a museum. It was constructed in the Federal style, and was the residence of Annie Louise Cary, a noted Maine singer. It is also part of the South Street District.

Dyer Estate is located at 180 Fort Hill Road (Route 114 North), north of Gorham Village. It was constructed in 1850 and contains a late Greek Revival style frame house, a number of outbuildings, and several designed landscaped features. It is an example of a turn-of-the-century Gentleman's Farm.

McLellan House is located on the campus of the University of Southern Maine, along School Street (Route 114 North). It was constructed in 1773, and is the oldest brick house in Cumberland County. It had been occupied continually by descendants of the original builder, Hugh McLellan, until 1965 when it was given to the University. It is currently used as a women's dormitory by the university.

In addition to those properties listed on the National Register of Historic Places, the Maine Historic Preservation Commission identified five properties that appear to be eligible for listing on the National Register of Historic Places and could potentially be impacted by the Preferred Alternative. These properties are depicted on Figure 3-16 (page 3-42). The first is the Mosher Farm (MHPC #172-0019) located at 424 Mosher Road at the corner of Route 25 and Mosher Road. This home is a single family residence, built in the Federal architectural style. MHPC identified Mosher Farm as important for both the architectural significance of the house and its terraced lot, as well as the surviving architectural landscape associated with it.

The second property (MHPC #172-0020) is located at 550 Main Street and is a single family 2 ½ story residence in the 19th/20th Century Revival style of architecture. The third property, named the Stanwood-Ford House (MHPC #172-0103) is located at 141 Flaggy Meadow Road and is a two-story single family residence in good condition. It exhibits the Italianate style of architecture. The fourth property is the Joseph Libby House (MHPC #172-0175) is located at 263 Libby Road and is a single family 2 ½ story residence in good condition. Its architecture style is a combination of Colonial and Greek Revival. MHPC prepared a Historic Building/Structure survey for these properties. The fifth property is located on Flaggy Meadow Road west of Cressey Road.

Archaeological Resources

Between April 11 and May 12, 2001, an archaeological field team from MHPC conducted a "Phase O" Archaeological Survey of the proposed Gorham Bypass Study for the MDOT. The purpose of the Phase O Archaeological Survey is to assess the likelihood that a study may have potentially significant archaeological sites within its boundaries. A "historic site" refers to a place on the landscape that contains prehistoric or historic artifacts. A "significant historic site" is one that can contribute important scientific information about the past and that is eligible for inclusion on the National Register of Historic Places. MHPC identified a significant prehistoric site at the northern edge of the Study Area (Maine Historic Preservation Commission, 2000). Two potentially significant historic sites also were identified along the southwestern edge of the Study Area. A third historic site, not identified by MHPC as significant, was identified adjacent to

FIGURE 3-16

the Stroudwater River, at the southern edge of the Study Area. MHPC recommends a Phase I Archaeological Survey be conducted along proposed alternatives.

3.5.10 Public Parks and Recreation Lands

The Gorham Parks and Recreation Department together with the Gorham School Department provide recreation facilities and activities for Gorham residents. Two parks operated by the Gorham Parks and Recreation Department are located within the Study Area, Phinney Park and Robie Park, along with the Robie Gymnasium, located in Gorham Village (Figure 1-2, page 1-4).

Phinney Park is located south of Gorham Village on South Street. It serves as the location of the Town Memorial to Gorham's war heroes and does not contain any active recreational uses. Robie Park, located adjacent to Gorham High School on Morrill Avenue, is made up of two areas: the first area consists of dense evergreen trees, which does not provide for any active recreational use; and, the second area is the Robie Softball Little League Field, an active recreation area. The Gorham School Department provides recreational facilities for students and residents at the Gorham High School, the Shaw Middle School, the Village School, and the Narragansett School.

There are three properties that were partially funded (up to 50%) by the Land and Water Conservation Fund (LWCF) Act of 1965 16 U.S.C. 460, Figure 3-15, page 3-40. The properties fall under the protection of the Section 6(f) regulation, which affords special protection to recreational resources that have been purchased or improved with LWCF funds. This regulation restricts the conversion of lands acquired or developed with LWCF assistance to other than public outdoor recreation use. With approval of the U.S. Secretary of the Department of the Interior, lands may be converted to uses other than public outdoor recreation plan and only upon conditions necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

There are two LWCF Section 6(f) properties at the Gorham High School. The first is the Gorham High School athletic area. Also known as the Mason Multi Purpose Field, the Gorham High School recreation area serves as the main competitive athletic area for the high school soccer, baseball, field hockey, baseball teams, summer track and field and summer soccer program. The entire Mason Multi Purpose Field is considered a Section 6(f) property. The second Section 6(f) property at the Gorham High School is the entire tennis courts facility.

The third Section 6(f) property is located at the recreation area at the Narragansett Elementary School, known as the Chick Recreation Area. The Section 6(f) property at the Chick Recreation Area includes a regulation soccer field, a lighted regulation softball field, a lighted basketball court, and two playgrounds including a community playground. The property also includes a jogging trail, walking paths and a botanical study area, which are not subject to Section 6(f) funding.

3.5.11 Uncontrolled Petroleum and Hazardous Waste

Corridor Level Study

Record searches were conducted to identify known uncontrolled petroleum, hazardous materials sites, hazardous waste generators and waste disposal sites. These sites were

located at the corridor level, and displayed on the Study Area maps. No sites were identified for avoidance during the corridor level study.

Alternative Level Study

During the Alternative level study phase, the MDOT completed a Phase I Site Assessment (MDOT, 2002) for known uncontrolled petroleum, hazardous materials sites, hazardous waste generators and waste disposal sites within the general alignment areas. A database search was conducted to identify and locate regulatory files for sites within 0.4 km (0.25 mi) vicinity of each of the build alternatives (1c, 1e, 6b, 6c and 6d). In addition, field reconnaissance of the Study Area was conducted during the Summer of 2002. The purpose of the reconnaissance was to locate sites identified during the file review and to look for field evidence of uncontrolled petroleum and hazardous waste that were not documented in the regulatory file review.

As of June 2002, the following facilities within 0.4 km (0.25 mi) of each of the build alternatives maintain active underground storage tanks: Shaw Brothers Construction and TNT Quickstop Convenience Store, both located in the Mosher Corner area. The Shaw Brothers Construction facility currently operates five underground storage tanks, and the TNT Quickstop Convenience Store currently uses three underground storage tanks. Existing MDEP documentation indicates that these underground storage sites have not adversely impacted the subsurface environment, yet each represents a potential source of contamination.

The Phase I Site Assessment (MDOT, 2002) did not note any aboveground storage tanks within 0.4 km (0.25 mi) of each of the build alternatives.

There is one solid waste disposal facility located within 0.4 km (0.25 mi) of the build alternatives, on Weeks Road. This landfill began operations as an open “burning” dump in 1955 and ceased operation in 1975. This site was the recipient of a variety of household and commercial waste materials at a time of relaxed regulations. This site has a relatively high potential for undocumented contamination, and therefore should be avoided during the design process.

In addition, the Gorham Auto Parts facility, located 457 m (1,500 ft) west of Narragansett Street and Brianwood Lane has been identified as a potential site of concern. There are no known regulatory infractions found, however, additional investigation would be required to confirm or refute this potential site.

3.5.12 Utilities

The Study Area contains several major utilities including major transmission facilities, high-pressure gas lines, transmission water mains, and fiber optic lines, as depicted in Figure 1-2, page 1-4. Utility companies that operate these facilities within the Study Area include:

Central Maine Power

Electrical service to the Town of Gorham is provided by the Central Maine Power (CMP) Company, which serves central and southern Maine. CMP has a 76 meter (250 foot) wide right-of-way corridor extending across the southern portion of the Study Area. Within this corridor, high voltage transmission lines, located on wooden pole structures exist. A second CMP right-of-way corridor, approximately 122 meters (400 feet) in width, is located east of Gorham Village near the Route 25/Route 237 intersection. Within this corridor, numerous high voltage transmission lines exist.

Maritimes and Northeast Pipeline

Maritimes and Northeast Pipeline provides high pressure natural gas services to most of the East Coast including the Canadian Maritime Provinces. Within the Town of Gorham, an underground 76 centimeter (30 inch) high pressure gas line is located within both CMP right-of-way corridors.

Standish Telephone Company

Standish Telephone Company provides telephone service to the Towns of Standish, Sebago, Denmark, and Limington, west of Gorham. The Standish Telephone Company has an underground fiber optics line within the 122 meter (400 foot) wide CMP right-of-way corridor, located east of Gorham Village. The Standish Telephone Company does not provide direct telephone service to the Town of Gorham.

Portland Water District

The public water supply to the Town of Gorham is provided by the Portland Water District. The Portland Water District serves the Towns of Gorham, Standish, Windham, Cumberland, Falmouth, Westbrook, Portland, South Portland, Scarborough, and Cape Elizabeth. The Portland Water District draws its public water supply from Sebago Lake (outside the Study Area). Gorham Village is serviced by the Portland Water District, through water mains and service lines. There are no other major water facilities within the Study Area.

Time Warner Cable

Time Warner Cable provides cable service to the Greater Portland Area, including the Town of Gorham. Time Warner Cable has numerous cable lines within the right-of-way of existing roadways.

Verizon Communications

Verizon Communications provides telephone service to Gorham and the Greater Portland Area. Verizon has a cellular tower located near Route 114, north of Gorham Village and a small switching building at the Route 114/Route 22 intersection, south of Gorham Village.

Town of Gorham Sewer Main

The Town of Gorham has a 61 centimeter (24 inch) sewer main located within the abandoned railroad corridor, which generally runs in a west-east direction, parallel to Routes 4/202 and Route 25. Generally, Gorham Village is served by municipal sewer, from Main Street to Libby Avenue, and the Industrial Park located in the northwest corner of the Study Area. A sewage treatment plant is located in Westbrook, outside the Study Area.