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## Section 1 – Open Space Plan Summary

The recommended 2008 Open Space and Recreation Plan is summarized in the Action Plan Map located on page 94. The plan has several major features that respond to the Town's goals and objectives as described in Sections 8 and 9. Those features include:

- Focus on the Blackstone River and its tributary streams as major components of the town's open space system.
- Protect Mount Ararat as a major addition to the Town's open space.
- A network of proposed additions to the Town's open space system that makes connections between existing protected lands and proposed major new open spaces.
- Use of many of the transmission right-of-ways running through town as part of the open space network and potentially for trails.
- Development of "mini parks," small areas with facilities especially for youngsters and elderly residents, in the denser neighborhoods and villages. Some of these mini parks could be developed in conjunction with existing neighborhood parks and playgrounds.
- The reuse of the abandoned railroad right-of-way, running from downtown to the Mass Pike Park 'N Ride facility at Exit 11, as a multi-purpose path. In addition to serving as a convenient commuter route, it would link the Blackstone River Bikeway to Windle Field and the proposed swimming beach at Dorothy Pond.

The Open Space and Recreation Plan portrays areas that give Millbury's landscape much of its character. The protection of these areas is essential for realizing the Town's goal of preserving its character of relatively dense villages surrounded by tree-covered hillsides and farms.

## Section 2 – Introduction

### Statement of Purpose

The primary benefit of producing an Open Space and Recreation Plan is that it provides the opportunity for the town's residents and planners to identify and devise a strategy for protecting key natural, scenic and historic resources and the land that should be utilized for passive and active recreational activities before it is irrevocably lost to residential, commercial or industrial development. The astuteness of doing this is underscored by the fact that communities that experience healthy economic growth often have a diversity of recreation opportunities and natural/cultural areas. Potential employers, residents and visitors often think about the presence of quality open spaces when weighing their options for choosing a community in which to locate.

A secondary benefit of producing this Open Space and Recreation Plan Update is that it lays the ground work for the natural resources, land use and open space and recreation chapters of the Millbury Master or Comprehensive Plan, which is in need of update. It is anticipated that the process of producing the Master Plan will be launched in 2009/2010 if funding is available.

With its charming historic neighborhoods, attractive open spaces, proximity to jobs in Worcester or Boston and along the high-tech I-495 corridor, and direct access to the Massachusetts Turnpike (I-90) and State Route 146, it is no surprise that Millbury is a “hot” town to commercial and residential developers. The Town’s infrastructure is poised for growth, with excess capacity available in the Millbury school system, water supply and distribution system, and Upper Blackstone Water Pollution Abatement District treatment facility. An aggressive sewer expansion project is underway, eventually providing sewer service to approximately 697 additional Millbury homes and an untold number of new dwelling units. Millbury’s recent popularity to commercial and residential developers underscores the need to identify and preserve the landscapes, recreation resources, buildings, and neighborhoods that shape Millbury’s unique character before they are irrevocably lost.

The pace at which Millbury’s open spaces have been converted into commercial and residential development peaked between 2000 and 2006. Approved in 2001, construction of the Shoppes of Blackstone Valley on slopes adjacent to Route 146 and the new Route 146/Mass Pike Interchange that made the Shoppes economically viable has made Millbury even more appealing. Between 2000 and 2006, the Millbury Building Department issued 308 building permits for the construction of 241 single family homes and 319 multi-family dwelling units. During

that same timeframe, the Planning Board approved the construction of 512 dwelling units within sixteen residential developments. Due to the downturn in the housing market, many of the building permits for the construction of dwelling units within these approved developments have not yet been issued; however their eventual construction will dramatically change the character of many areas of Town.

Unfortunately, only a small portion of Millbury's important landscapes, recreation facilities and historic buildings are protected. Since 2000, Millbury lost many of its cherished scenic, cultural and ecological resources to development. One beloved site recognized as a protection priority in the 1998 Open Space and Recreation Plan is Clearview Country Club, a 118-acre, 9-hole golf course. In December 2005 the Planning Board approved a 61-lot conventional subdivision for the site. The 180-acre area that includes Mount Ararat and the abandoned portion of Old Common Road was recognized as a protection priority in the 1998 Master Plan, but 109 acres of this area is currently being developed into Brierly Pond Village, a 199-unit multi-family open space community for those aged 55 and older. Phase I of the project, which was approved in 2001 and is fully constructed, consists of 138 units on 62 acres. Phase II, consisting of 61 units on 46 acres, was approved in 2004 and is under construction. A second project proposed within the Mount Ararat area, known as Old Common Estates, was a conventional subdivision consisting of 19 homes on 24 acres. The Planning Board denied approval of the project due to technical inadequacies; however it is likely that the site would eventually be developed into single family homes in the absence of any protective actions by the Town.

**History of  
Open Space  
Planning Activities**

Millbury's history of open space and recreation planning dates back forty-five years. The 1963 Comprehensive Plan pointed out that while population and demand for outdoor recreation were growing; Millbury's recreation land and facilities fell short of the National Recreation Association's standards. At that time the town's recreation facilities amounted to about 1% of its total developed land while many communities had an average of 15% devoted to open space and recreation. The Plan stated that:

"Such a lack not only deprives the town's citizens, it prejudices every aspect of the town's hopes for healthy growth and economic development. ...(A) sound program of recreational development can greatly enhance the general spirit and attractiveness of Millbury, to say nothing of local property values, and will help to draw in the most permanent and desirable kinds of industrial, commercial, and residential construction."

Since 1963 some progress has been made in protecting open spaces and providing recreation opportunities. According to the 1998 Open Space and Recreation Plan, which updated the Town's first Open Space and Recreation Plan completed in 1980, the total area of the town's land use devoted to recreation facilities was 7% of the developed area or 283 acres. Permanently protected land for conservation amounted to another 223 acres or 3.2% of the town's undeveloped area. Another 74 acres were protected as part of the town's water supply. The total of the town's recreation and conservation land was 580 acres or about 6% of the town's total land area. Still, not all recreation and open space standards were met, and Millbury was behind many communities that protected 15% to 20% of their total land area for their citizens' enjoyment of open space and recreation. Since 1998, additional progress was made. Section 5 of this Update identifies 917 acres of permanently protected open space, including water supply areas, and 318 acres of unprotected recreation land. Combined, these areas constitute 1,235 acres, a dramatic 113% increase over the 1998 figure. In 2008, approximately 13% of Millbury's total land area was devoted to recreation or conservation uses.

Real progress has been made on a number of the specific goals and objectives articulated in the 1998 Open Space and Recreation Plan Update. For example, the Planning Board approved five Open Space Communities (Brierly Pond Village, Brierly Pond Village Phase II, Park Hill Village, Stratford Village, and McCracken Meadow Estates) which will ultimately yield more than 50 acres of permanently protected open space (please note that the open space protected as part of Brierly Pond Village was not segregated from the rest of the development therefore it was not included within this total). The 21-acre parcel of open space that was protected as part of Brierly Pond Village Phase II lies within the Mount Ararat area and abuts Old Common Road, which were identified as protection priorities in the 1998 Plan. Moreover, the Town will secure an additional 102 acres of open space as part of three conventional subdivisions: Clearview Estates, Longwood Farm Estates and Mangano Estates, in order to safeguard wetlands, preserve scenic views and provide recreation opportunities for subdivision residents and the general public. Six of these developments will feature recreation trails and parking areas to facilitate public access to the trails.

One objective articulated in the 1998 Open Space and Recreation Plan Update was to develop linkages between open space and recreation areas. The Mangano Estates and Patriots Place Subdivisions are two examples of Planning Board implementation of this goal. Through the Mangano Estates approval process, the Planning Board negotiated the donation of two parcels of land that provide road access to adjacent

Conservation Commission and Massachusetts Department of Conservation and Recreation (DCR) properties. The Planning Board required preservation of existing trails on site, construction of a gravel parking lot that accommodates six vehicles, and installation of trailhead signage that features maps of the on-site trails as well as those on the adjacent Conservation Commission and DCR properties. Through the Patriots Place approval process, the Planning Board negotiated conveyance of a trail access easement to the Conservation Commission, construction of a five-foot wide, hand-blazed trail, and installation of a trail head sign. The Planning Board required these actions to preserve access to the trail network located on adjacent Aquarian Water Company property.

The Town implemented the 1998 objective to “develop incentives to encourage cluster developments...” by adopting a new by-right bylaw in May 2006. The new Bylaw enhances the effectiveness and corrects the perceived deficiencies of the original Open Space Communities Bylaw, or Cluster Bylaw. The Bylaw allows for greater flexibility and creativity in the design of residential developments to facilitate the permanent protection of open space and natural, historic and scenic resources. Open Space Communities are allowed by right in Residential and Suburban Districts subject to site plan approval by the Planning Board. This means that only three affirmative votes are necessary to approve an Open Space Community today, instead of the four votes previously required under the old Bylaw’s special permit approval process. The Communities must be designed by a multi-disciplinary team that includes a landscape architect and must adhere to low impact development best management practices “insofar as possible”. Applicants can obtain density bonuses for Open Space Communities that benefit the Town in identified ways, including the use of alternative renewable energy resources to power dwelling units, protection of farmland, protection of more than the minimum open space requirement of 50%, and construction of recreation facilities that are accessible to the general public.

In 2007, the residents of McCracken Road launched an effort to have the portion of McCracken Road that extends from the Auburn Town line to the Greenwood Street intersection designated as scenic. An article to this effect was placed on the May 2007 and May 2008 Annual Town Meeting Warrants. However, since designation of the roadway as scenic was not supported by the Historical Commission, Conservation Commission or the Planning Board, it was indefinitely postponed on both occasions.

In response to another recommendation, efforts were made to develop a recreation trail on the abandoned railroad right-of-way in East Millbury that links the proposed Dorothy Pond Recreation Area, Deering Estate

Wildlife Management Area and the Blackstone River Bikeway. In 2002, the Town of Millbury commenced negotiations with the State to transfer ownership of the right-of-way to the Town so that it could be used as a multi-purpose trail; however negotiations have been unsuccessful to date.

Efforts were made to develop a town swimming beach on a 20-acre parcel of land on the southeast shore of Dorothy Pond. Wheelabrator Technologies, Inc donated the sand necessary to create the beach in 2003 however, subsequent analyses of the water quality revealed elevated concentrations of heavy metals in Dorothy Pond that would appear to pose a risk to a proposed beach on Little Dorothy Pond. These results stalled municipal efforts to complete construction of the beach.

In implementation of another objective articulated in the 1998 Plan, the School Committee secured ownership of Windle Field in April 2006. The School Committee engaged Carolyn Cooney & Associates, a landscape architecture and planning firm, and JJA Sports, a consulting firm specializing in the planning, design, permitting, and construction of sports and recreation facilities, to prepare a master plan for the construction of a recreation complex. That plan was completed in March 2007.

The Parks Commission successfully made a number of improvements to facilities under its jurisdiction during the past ten years. Improvements included major renovations to the East Millbury Park basketball court and bleachers and installation of new playground equipment; construction of the Greenwood Street Park soccer field, relocation of the basketball court and construction of additional parking; and installation of new playground equipment at the Washington Street Playground. The Town of Millbury partnered with local business to reconstruct and irrigate the soccer field located at the Millbury Savings Bank West Branch, near Route 146 North. Although privately owned, the facility is open to the public. Using municipal funds as well as private contributions and volunteer labor, the Town of Millbury completed a major renovation of the Town Common in 2002 that included the installation of attractive period lighting, brick pavers, benches, trash barrels, and new landscaping. Recreation improvements planned for 2008 include installation of playground equipment at the Dorenzo Playground and sealing cracks, painting and striping the basketball courts at the Dorenzo Playground, Washington Street Playground, and Greenwood Street Park.

The Conservation Commission is continuously engaged in efforts to protect inland wetlands and wildlife habitats through enforcement of the Wetlands Protection Act, including the Rivers Protection Act. They also ensured better protection for important wildlife habitats, including wetlands and vernal pools, by agreeing to accept donations of land that is

part of the Autumn Gate Estates (Phase I and II), Clearview Estates, Longwood Farm Estates, McCracken Meadows, and Mangano Estates residential developments.

While much progress has been made since completion of the 1998 Open Space and Recreation Plan, the Town was unable to make headway on a few recommendations, largely due to a dearth of funds and personnel.

**Planning Process  
and Public  
Participation**

The Town Planner initiated the Open Space and Recreation Plan process in May 2006, when she obtained the funds necessary to print and distribute a town-wide Open Space and Recreation Survey aimed at soliciting resident opinions about development patterns, preservation priorities and recreation opportunities. The Planning Office worked with the Collector's Office to distribute the 11-question, three-page survey with municipal tax bills to 4,712 households in June 2006. Six hundred fifty-six surveys were returned, tallied and analyzed, which represents a 14% response rate (See Appendix A for results).

The second step in this planning process involved reactivating the Open Space Committee, which was originally formed as part of the 1998 Open Space and Recreation Planning process. Upon suggestion of the Town Planner, the Board of Selectmen activated and appointed seven members to the Committee. Representatives of the Ponds and Lakes Commission, Parks Commission, Conservation Commission, Planning Board, and Historical Commission were specifically recruited to serve on the Committee due to their knowledge of open space and recreation issues and ability to enact change. The Open Space Committee is comprised of the following Town officials and concerned citizens:

Everett Grahn, Ponds and Lakes Commission  
Randy Mogren, Parks Commission  
Bruce Nichols, Historic Commission  
Philip Nyberg, Resident  
David Palleiko, Conservation Commission  
Sarabeth Parda-Persiani, Resident  
Brian Stowell, Planning Board

The Town Planner, Laurie Connors, coordinated Committee activities and was the primary author of the Plan Update. Ron Marlborough replaced Randy Mogren as the Parks Commission representative in March 2008. Between September 2007 and June 2008, the Committee held 11 meetings (See Appendix G for meeting minutes).

## Historic Map

## Section 3 – Community Setting

**Regional Context** Encompassing a geographic area of 15.84 square miles, Millbury is bordered by Worcester to the north, Grafton to the east, Oxford and Auburn to the west, and Sutton to the south. The community is located in central Massachusetts at the crossroads of the Massachusetts Turnpike and Routes 20 and 146. It is 43 miles west of Boston and 37 miles north of Providence, Rhode Island. The Blackstone River flows through the center of town on its route from Worcester through Rhode Island to Narraganset Bay.

Weekday bus service is provided between Millbury and downtown Worcester by the Worcester Regional Transit Authority. The Millbury Council on Aging also runs five vehicles that provide approximately 18,000 one-way rides for elderly residents from Millbury and handicapped residents from Auburn, Grafton, Millbury, Sutton, and Worcester. Through this service, transportation to work, medical appointments, shopping, and other locations is available.

Millbury's closest airport is located in the abutting City of Worcester although it currently offers no scheduled airline service. The Worcester Regional Airport is operated by the Massachusetts Port Authority and includes a \$15.7 million passenger terminal and over \$12 million worth of airside improvements such as lighting systems, navigational aids and a new control tower. The closest airports with scheduled airline service are Logan Airport in Boston (50 miles) and T.F. Green Airport in Providence (40 miles).

Millbury's location at the junction of three major regional roadways makes it an attractive area for both commercial and residential growth. As part of the greater Worcester area, the growth of Millbury and Worcester are interdependent and linked to the economies of other surrounding towns as well as to those of Boston and Providence. Grafton and Auburn have experienced considerable suburban growth in the last twenty years, while Millbury experienced moderate growth. Northern Millbury, southern Worcester, and northwestern Grafton have a concentration of commercial and industrial land uses that generate considerable traffic. Sections of Route 20 along the northern border of Millbury have haphazard strip commercial, industrial, and highway related developments. The section of Auburn adjacent to Millbury, southwestern Grafton, and Sutton are largely rural and residential in character. Grafton, Auburn, and Sutton all have parcels of open land

with varying degrees of protection on their borders with Millbury, which offer opportunities for making open space connections.

The Blackstone River bisects Millbury from north to south. The river was an early defining influence- first for water power and later for transportation. As industrial waste contaminated the river in the 19<sup>th</sup> and 20<sup>th</sup> centuries, Millbury turned away from the Blackstone River. As recent cleanup efforts have begun to restore the river, the Blackstone Valley has developed a new vitality, Millbury, once again, has a growing opportunity to take advantage of the river. The new MassPike/Route 146 interchange, the commercial opportunities represented by the Shoppes of Blackstone Valley and the Blackstone River Bikeway are potentially as important for Millbury's future as the mills were for its past.

## History

The Nipmuck tribe of Native Americans frequented the area we now call Millbury. They used soapstone from a site on the southwestern shore of Lake Singletary to manufacture artifacts and stone tools. Spearheads, mortars, and bowls have been found in the vicinity of Ramshorn Pond and Bramanville. King Philip's War (1675-1676) resulted in the decimation of the local Native American population and paved the way for new settlers.

Settlement by European colonists began in 1704 when a group from Boston bought an 8 miles square plantation from the Native Americans to form the Town of Sutton. This tract of land eventually included parts of Sutton, Millbury, and Auburn. Farmsteads and hilltop villages like Old Common were settled. By the 1740s, two parishes had been established in what was then called Sutton. Traveling the four miles to town meetings from Old Common in the North Parish to Sutton Center in the South Parish was difficult and inconvenient, especially in winter, so the 500 residents of the North Parish won their petition for separation and became the Town of Millbury in 1813.

By the late 1700s waterpower from the Blackstone River and its tributaries, Dorothy and Singletary Brooks, provided energy and played a major role in reshaping Millbury's development. Many people left their agricultural lifestyle for the opportunities of a growing industrial society. Mills and mill villages, like Armory Village, Singletary Village, Burbankville (Bramanville), Buck's Village, and West Village, were built along these waterways. The first paper mill in the county was established on Singletary Brook in 1770. Millbury factories produced bayonets and arms for the Continental Army, household pins, wire, felt, leather, shoes, cotton, wool, and linen. When the Blackstone Canal, with its nine locks in Millbury, opened between Worcester and Providence in 1828, factory production nearly doubled. By 1830 more than 1,000 new workers had come to live and work in Millbury and the population grew from 500 in

1813 to more than 3,000 people. By 1870 Millbury was a thriving community of many mills making many different products as shown on the historic map on page 15.

Waves of immigrants attracted by jobs offered in the mills of the Blackstone Valley helped form some of the rich ethnic diversity of Millbury and surrounding communities. French-Canadians, Irish, Polish, and other ethnic groups staffed the many mills of Millbury.

Today, many of the old mill buildings are vacant or only partially utilized. Several new businesses have taken advantage of the space offered by these buildings and relatively low taxes to manufacture new products. In 2004, construction was completed on Cordis Mill, which was transformed from a woolen mill into 112 apartments and town homes.

Cordis Mills, Bramanville Industrial Park & Cesyl Mills



The Blackstone River flows 46 miles from Worcester, through Millbury, to Providence. It has been recognized for the great effect the harnessing of its water power had on the American Industrial Revolution. In 1988 an act of Congress established the Blackstone River Valley National Heritage Corridor in Massachusetts and Rhode Island. The goal of the National Heritage Corridor is to protect the valley's historic, cultural and natural resources.

**Population  
Characteristics**

Population growth and density have important implications for open space and recreation planning. With increasing population size and density, Millbury should strive to meet the recreation needs of that swelling population. Millbury planners should also identify and preserve the key natural and cultural resources that Millbury residents cherish before they are irrevocably lost to future residential, commercial and industrial development.

Historic Map

At the time of the 2000 Census, Millbury was home to 12,784 people. Table 1 presents Millbury’s population growth over the past 80 years, as well as a 2005 estimate and the Town’s projected population for the years 2010 and 2020.

**Table 1:  
Millbury Population Growth**

Year	Number of People	Numerical Change	Percent Change
1920	5,653	-----	-----
1930	6,957	1,304	23.1%
1940	6,983	26	.4%
1950	8,347	1,364	19.5%
1960	9,623	1,276	15.3%
1970	11,987	2,364	24.6%
1980	11,808	(179)	-1.5%
1990	12,228	420	3.6%
2000	12,784	556	4.6%
2005 Estimate*	13,459	675	5.3%
2010 Projection*	13,700	324	2.4%
2020 Projection*	14,600	900	6.6%

Sources: US Census Bureau; \*Forecasts provided by CMRPC

Table 1 illustrates that Millbury experienced significant population growth in the years leading up to the Great Depression, and also during the 1960’s. After a slight decrease in population during the 1970’s, Millbury’s population moderately increased during the ensuing twenty year period. According to the Central Massachusetts Regional Planning Commission’s (CMRPC) population forecast, Millbury will experience slightly higher population growth over the next fifteen years (a 14.2% increase between 2000 and 2020). This trend is already apparent as Millbury’s population is estimated to have increased more in the five year period from 2000 to 2005 than in the last decade.

Table 2 indicates that neighboring communities, especially Grafton and Sutton, and the region as a whole are also experiencing population growth and should expect that trend to continue. Regional growth is primarily due to persons migrating from Greater Boston, where housing costs are significantly higher. Interestingly, Worcester, the region’s largest city, is expected to have the smallest percentage population growth between 1980 and 2020.

**Table 2:  
Neighboring Communities Population Growth**

<b>Community</b>	<b>1980 Population</b>	<b>1990 Population</b>	<b>2000 Population</b>	<b>2010 Population Projection*</b>	<b>2020 Population Projection*</b>
Auburn	14,845	15,005 1% increase	15,901 6% increase	16,500 4% increase	17,200 4% increase
Grafton	11,238	13,035 16% increase	14,894 14% increase	18,000 21% increase	20,100 12% increase
<b>Millbury</b>	<b>11,808</b>	<b>12,228</b> <b>4% increase</b>	<b>12,784</b> <b>5% increase</b>	<b>13,700</b> <b>7% increase</b>	<b>14,600</b> <b>7% increase</b>
Oxford	11,680	12,588 8% increase	13,352 6% increase	13,900 4% increase	14,500 4% increase
Sutton	5,855	6,824 17% increase	8,250 21% increase	9,600 16% increase	10,900 14% increase
Worcester	161,799	169,759 5% increase	172,648 2% increase	179,000 4% increase	182,700 2% increase
CMRPC Region	439,465	482,436 10% increase	518,480 8% increase	559,600 8% increase	595,000 6% increase

Sources: US Census Bureau; \*Forecasts provided by CMRPC

*Age*

Age is an important factor in determining open space and recreation needs. According to the 2000 Census, the median age in Millbury was 38.7 years. This is slightly higher than that of the 40 communities that comprise the CMRPC region where the median age was 33.4 years. The following table compares the number of residents within various age groups in 1990 and 2000. The breakdown indicates that Millbury's population, like that of the CMRPC region as a whole, is aging. In 1990, Millbury's median age was 34.5 years compared to the CMRPC median age of 31.8 years.

**Table 3:  
Millbury Population by Age (1990 – 2000)**

Age	1990	2000	Percent Change
0 - 19 years old	2,989	3,210	6.9%
20 - 44 years old	4,845	4,535	(6.8%)
45 - 64 years old	2,582	2,990	13.6%
65 + years old	1,812	2,049	11.6%

Sources: US Census Bureau

Different age groups make different demands that impact the open space and recreation needs of a community. For example, senior citizens (those over 65 years of age) typically require access to transportation and delivery services, health services and social activities. Elderly individuals may desire passive recreational facilities such as a senior center, community gardens, walking paths, and fishing areas that are relatively close to home. Yet members of this age group typically rely on small fixed incomes that limit their ability to afford property tax increases. In 2000, 2,049 people or 16% of the total population were considered senior citizens. This represents a 12% increase over the number of senior citizens living in Millbury in 1990.

Another group that significantly impacts community planning is children. The size of the school age population determines how much money a town must allot to education, easily the largest proportion of a small community's budget. A significant increase in the number of school age children can lead to economic strain, school over-crowding and change the focus of open space and recreation planning. While adults may be satisfied with passive recreational activities, youth often demand more expensive facilities and recreational programming including a youth center, playgrounds, skateboard parks, swimming areas, running tracks, tennis courts, playing fields, a summer camp, and sports programs. The Census reported that 3,210 Millbury residents (25% of the total population) were age 18 or younger in 2000. This represents a 7% increase over the number of children living in Millbury in 1990. The Superintendents' offices reported that 2,026 children attended the Millbury Public Schools or the Blackstone Valley Vocational Regional School during the 2006/2007 school year.

Twenty-three percent of Millbury's 2000 population was between 45 and 64 years of age. This represents a 14% increase over the number of adults within this age group living in Millbury in 1990. This age group is important to community planning since members are typically employed, at the top of the pay scale, have greater equity, and often no longer have

children living at home. For these reasons, they are often the community leaders and are in a better position to afford property tax increases than other age groups.

#### *Density*

Population density is another important factor when considering open space and recreation needs. More settled areas require more neighborhood parks and playgrounds, while more sparsely developed areas are often resources for more expansive recreational pursuits such as hiking and the enjoyment of nature.

From the perspective of population density, Millbury has two faces – urban and rural. East Millbury, especially the uplands closest to the Blackstone River, and some of the villages are nearly as densely developed as the City of Worcester. The center of Millbury has 3,130 people per square mile while West Millbury, with 524 people per square mile, is less developed than many of the rural parts of the Central Massachusetts region. By dividing the 2000 population by the total land area, Millbury had an average density of 813 people per square mile. Worcester had 4,597 people per square mile and the Central Massachusetts region had 560 people per square mile.

#### *Workforce and Employment*

Millbury's residents are employed in a wide array of jobs. With a civilian labor force totaling 6,844 people in 2000, the predominant occupations were management, professional and related occupations (29%), sales and office occupations (28%), production, transportation and material moving occupations (18%), and services (14%). In 2000, the Census identified educational, health and social service establishments as the largest employers of Millbury residents (20%), followed by manufacturers (18%), retailers (10%), and construction companies (8%). The occupations held by Millbury residents have important open space and recreation consequences in that a predominance of higher paying occupations indicate that residents have a greater ability to afford to protect open spaces and create/maintain recreation facilities.

Commercial and industrial activity is important to a town since income derived from these sources shifts the burden of costly public services away from residential development. Cost of Community Services Studies of 10 Massachusetts communities conducted throughout the 1990's by the American Farmland Trust consistently showed that while residential development is a net drain on municipal coffers, commercial development, industrial development and farms/forests constitute a net gain for municipal coffers. This means that residential development consumes more money in municipal services than it contributes, while commercial development, industrial development and farms/forests contribute more money in taxes than they consume in services.

In 2001, the Executive Office of Labor and Workforce Development identified 245 commercial, industrial and institutional establishments in Millbury that employed 3,814 workers. Of those industries under private ownership, Millbury's 30 manufacturers dominated the local economy by employing the largest number of people (719), followed by Millbury's 16 health care and social assistance establishments, 31 retailers, and 13 wholesale trade establishments, which employed 446 workers, 387 workers and 313 workers respectively.

By 2006, Millbury experienced significant commercial growth and a shift in the local economy. The completion of the Shoppes of Blackstone Valley in 2005, which consists of 59 retailers and restaurants within approximately 820,000 square feet of gross floor area, caused retailers to become the dominant private employers in Millbury. Millbury's 62 retailers employed 1,379 workers that year. Other top employers included 31 manufacturers with 651 workers, 25 accommodation and food service establishments with 536 workers, 47 construction companies with 444 workers, and 17 transportation and warehousing enterprises with 375 workers. Between 2001 and 2006, the most significant shifts in employment occurred in the accommodation and food service industry (893% increase in jobs), retail trade industry (256% increase in jobs), professional and technical services industry (65% increase in jobs), and construction industry (64% increase in jobs). In 2006, the Executive Office of Labor and Workforce Development identified 328 establishments in Millbury that employed 5,332 workers. This represents a 34% increase in the total number of Millbury establishments and a 40% increase in the number of jobs since 2001.

The shift in the local economy towards retail, accommodation and food service establishments is important in that Millbury is becoming a destination for those living and working throughout the region. While this means that Millbury's open spaces are being converted to urban development at an ever-increasing rate, it also means that Millbury can use its new-found reputation as a destination to leverage support from businesses for open space protection and the creation of additional recreation facilities to serve its growing population. For example, through the definitive subdivision and site plan review processes, the Planning Board can require developers to construct new recreation facilities, such as multi-purpose trails, or enhance existing facilities at no cost to the Town as a condition of approval. Moreover, businesses, like landscapers, construction companies, banks, retailers, and industries, are often willing to donate landscaping and contracting services, sponsor recreation programming and donate recreation equipment as a marketing tool or part of a good neighbor policy.

According to the Executive Office of Labor and Workforce Development, Millbury's unemployment rate was 4.8% in 2006. The unemployment rate was higher than it was in 2000, but Millbury's unemployment rate is consistently lower than the state average (See Table 4).

**Table 4:  
Annual Average Civilian Labor Force and Unemployment  
(2000 – 2006)**

<b>Year</b>	<b>Millbury Laborforce</b>	<b>Millbury Unemployment Rate</b>	<b>Statewide Unemployment Rate</b>
2000	7,228	2.4%	2.7%
2001	7,370	3.6%	3.7%
2002	7,442	4.9%	5.3%
2003	7,481	5.3%	5.8%
2004	7,463	4.8%	5.2%
2005	7,455	4.7%	4.8%
2006	7,529	4.8%	5.0%

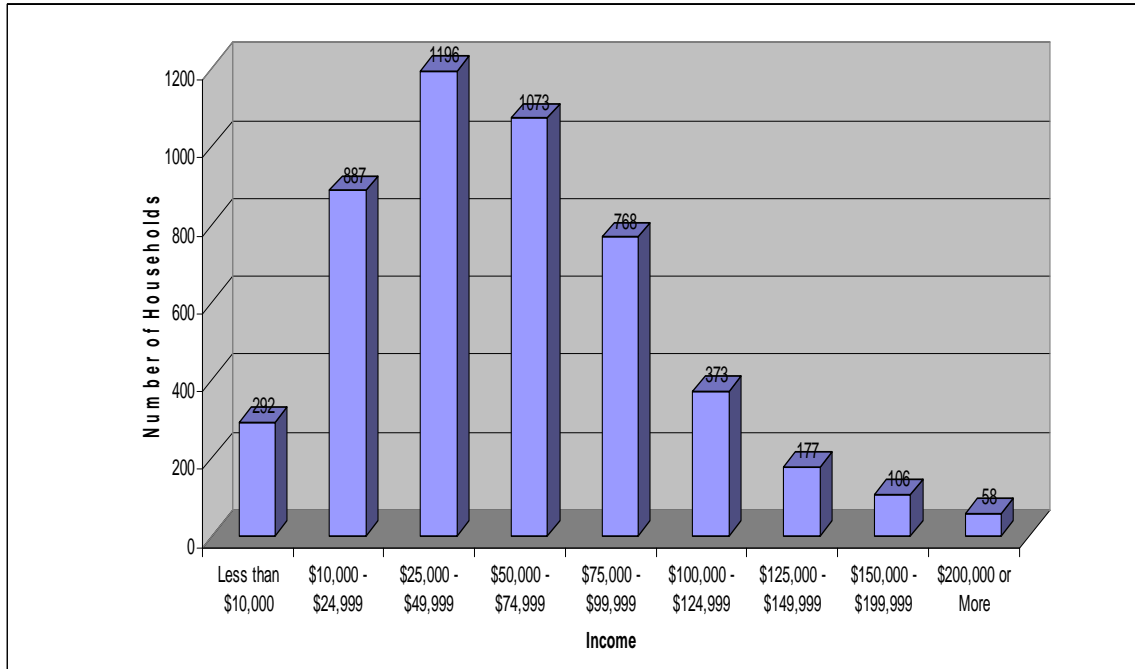
Source: Executive Office of Labor and Workforce Development

Census data show that the median household income for Millbury was \$51,415 in 2000, a 37% increase over the 1989 median household income of \$37,438. Millbury's median family income was \$62,564, a 39% increase over the 1989 median family income of \$45,131. Millbury's income levels tend to be higher than that of the Worcester County Primary Metropolitan Statistical Area (PMSA). According to the 2000 Census, the median family income for Worcester County PMSA was \$54,400. This represents a 32% increase over the 1989 Worcester County PMSA median family income, which was \$41,186. While Millbury is not an affluent community, the median income is increasing faster than inflation and is showing evidence of increasing prosperity.

As illustrated in Figure 1, the largest number of households in Millbury in 2000 earned between \$25,000 and \$49,999 per year, which constituted 24% of all households. This is slightly below the median household income, and further below the median family income. It is not surprising that household and family income varies significantly given householder ages and the presence of children. Householders between the ages of 35 to 44 years old had the highest median household income at \$67,917. Elderly householders and single parents with children under age 18 earned significantly less on average. Householders between the ages of 65 and 74 earned a median household income of \$24,038; householders over the

age of 75 earned a median household income of \$22,097. Single fathers with children under the age of 18 earned a median family income of \$43,000; single mothers earned a median family income of \$22,446.

**Figure 1: Household Income in Millbury in Year 2000**



Source: US Census Bureau

One hundred forty-two out of a total of 3,471 families in Millbury lived below the poverty line in 2000. According to the MassCARES Community Wellness website, this is a 255% percent change since 1990 when there were 40 families living below the poverty line. Eighty-five percent of these families had children under the age of 18 years and 61% of these families were single mother families with children under the age of 18 years. Six percent of families below the poverty line received supplemental security income or public assistance income.

Millbury officials should be mindful of resident income levels when trying to obtain funds for preserving open space resources, and developing and maintaining the town’s active and passive recreation facilities. As illustrated above, Millbury’s elderly residents are, on average, not affluent and probably live on fixed incomes. This means that for the 16% of Millbury residents that are elderly, more taxes of any kind may be a tough sell. On the other hand, Millbury has a young adult and middle age group that may be in a financial position to afford the tax increases necessary to support additional recreational facilities.

**Growth and  
Development  
Patterns**

Millbury began as a farming community with hilltop villages and was dramatically transformed by the industrial revolution into a series of riverside mill villages separated by rolling hills covered with forests and scattered farms. The Blackstone River and its tributaries were the reason for its industrial base and growth.

The mixed uses of the 19<sup>th</sup> century villages gave a unique character to many parts of the town. Industrial, commercial, and residential uses are all in close proximity. This precedent of village development is supported by provisions in the current zoning regulations that encourage mixed uses.

With the advent of the automobile, former woodlots and farmlands on the outskirts of town were slowly converted into house lots. The pace of residential development has accelerated in the new millennium as Millbury’s charm, relatively affordable housing prices, excellent highway access, and close proximity to jobs located in Boston, Worcester and along the Route 495 corridor, enhanced Millbury’s reputation as a desirable town in which to live and work. Table 5 depicts the number of new construction residential building permits issued since 1990. The dramatic increase in the number of multi-family dwelling units constructed is largely owing to the conversion of Cordis Mills into a 112-unit apartment complex and construction of Brierly Pond Village (Phase I), a fifty-five and older community consisting of 138 townhouse units.



New Home in Millbury Subdivision, Apartments at Cordis Mills

The bulk of new construction residential building permits issued since 1990 are for dwellings within developments approved by the Planning Board as opposed to single-family dwellings on roadside lots that require no approval. Since 2000, the Planning Board approved 18 developments

containing 529 dwellings. These projects are in various stages of development.

**Table 5:**  
**New Construction Residential Building Permits Issued in Millbury: 2000 - 2006**

Year	Building Permits Issued	Number of Single Family Units Created	Number of Multi-Family Units Created	Total Dwelling Units Created
1990	26	22	8	30
1991	39	39	0	39
1992	56	56	0	56
1993	30	30	0	30
1994	18	18	0	18
1995	9	9	0	9
1996	19	19	0	19
1997	24	24	0	24
1998	33	33	0	33
1999	44	44	0	44
2000	73	73	0	73
2001	34	34	0	34
2002	43	31	150	181
2003	33	17	58	75
2004	44	33	36	69
2005	68	42	71	113
2006	13	11	4	15
<b>TOTAL</b>	<b>606</b>	<b>535</b>	<b>327</b>	<b>862</b>

Source: Millbury Building Department

Between 1990 and 2006, 3,631 homes were sold in the Town of Millbury. As depicted in Table 6, the median sales price of Millbury homes fluctuated between 1990 and 2006. In 1990, the median sales price was \$115,000. The recession and subsequent housing crash drove Millbury housing prices down during the ensuing four years. They bottomed out at \$95,000 in 1994, increased by more than \$10,000 in 1995, dropped again in 1996, before steadily increasing over the next nine years. In 2000, the median sales price of a home in Millbury was \$140,000, a 22% increase over the median sales price of a home in 1990. Home prices more than doubled during the next five years, peaking in 2005 at \$302,925. The 2005 median sales price of a Millbury home was 163% higher than it was in 1990. In 2006, housing prices fell by more than \$47,000, largely in response to increasing interest rates and falling demand.

**Table 6:  
Housing Sales in Millbury: 1990 – 2006**

Year	Median Single Family Sales Price	Median Condominium Sales Price	Median Residential Sales Price (All Sales)
1990	\$115,000	75,000	\$115,000
1991	\$114,900	\$75,500	\$106,000
1992	\$108,000	\$45,000	\$100,000
1993	\$115,000	\$27,000	\$98,500
1994	\$108,000	\$39,750	\$95,000
1995	\$112,000	\$69,000	\$105,500
1996	\$115,000	\$71,500	\$97,850
1997	\$120,500	\$73,000	\$110,000
1998	\$122,750	\$75,000	\$113,500
1999	\$137,250	\$88,000	\$129,000
2000	\$149,900	\$110,000	\$140,000
2001	\$184,000	\$143,500	\$170,000
2002	\$196,250	\$164,000	\$192,300
2003	\$240,000	\$251,929	\$254,450
2004	\$254,500	\$200,000	\$270,000
2005	\$296,500	\$295,900	\$302,925
2006	\$248,000	\$288,350	\$255,429

Source: The Warren Group

Of all Millbury housing types, condominiums enjoyed the most dramatic price increase in the Town of Millbury between 1990 and 2006. In 1990, the median sales price of a condominium was \$75,000. The median sales price increased slightly in 1991 before plummeting to a mere \$27,000 in 1993 (this is largely due to widespread septic system failures at Paul Revere Village). Sales prices increased steadily thereafter. In 2000, the median sales price of a condominium in Millbury was \$110,000, a 47% increase over the median sales price of a condominium in 1990. The sales price peaked at \$295,900 in 2005, a whopping 295% increase over the 1990 figure. Similar to single family home prices, the average sales price of a Millbury condominium decreased in 2006, but the price drop was much less significant than that of a single family home.

As depicted in Table 7, Millbury’s notable home price increases over the past fifteen years are echoed in neighboring communities. Of the six communities studied, Grafton and Sutton maintained their historic pattern of the highest home values. Grafton, the Millbury neighbor closest geographically to jobs located in Boston and along Route 495, experienced a 177% increase in home values between 1990 and 2005. This represents the largest increase in home values during that

timeframe. At 163%, Millbury experienced the second largest increase in home values. Of the communities studied, Auburn saw the smallest increase in home values, which was still a significant 117%. All neighboring communities, with the exception of Sutton, saw a drop in housing prices in 2006.

**Table 7:  
Housing Sales in Neighboring Communities: 1990 – 2006**

Town	Median Residential Sales Price (All Sales)	Percent Increase 1990 – 2005
Auburn	1990: \$110,000 2000: \$140,000 2005: \$258,100 2006: \$237,000	117%
Grafton	1990: \$131,525 2000: \$184,900 2005: \$364,585 2006: \$334,750	177%
<b>Millbury</b>	<b>1990: \$115,000</b> <b>2000: \$140,000</b> <b>2005: \$302,925</b> <b>2006: \$255,429</b>	<b>163%</b>
Oxford	1990: \$100,000 2000: \$117,500 2005: \$235,500 2006: \$225,000	136%
Sutton	1990: \$128,000 2000: \$185,500 2005: \$330,900 2006: \$339,900	158%
Worcester	1990: \$106,000 2000: \$119,000 2005: \$241,620 2006: \$225,000	127%

Source: The Warren Group

*Infrastructure*

The infrastructure and services in Millbury’s villages focused on the neighborhoods around the mills. The center of town and most of the neighborhoods of East Millbury have sewers and the town is extending

sewer lines to service many of the unserved areas, especially around Lake Singletary, to reduce water pollution from failing septic systems.

Sewer service is provided to 3,063 households in the Town of Millbury. The system consists of approximately 48 miles of pipes and 14 pump stations. The station has a pumping capacity of 10 mgd. The Town charges user fees based on water usage, which finance the operation and maintenance costs of the system. In 1998 voters elected to abandon the Millbury Secondary Wastewater Treatment Plant, which successfully treated the Town's effluent for 35 years, and to pump all wastewater into the Upper Blackstone Water Pollution Abatement District. All of the Town's wastewater is pumped via its newly designed pumping station that went on line in January 2005. The Millbury wastewater treatment plant was decommissioned in 2005.

Located at the headwaters of the Blackstone River in Millbury and Worcester, the Upper Blackstone Wastewater Treatment Facility was designed to provide secondary treatment at an average flow of 56 million gallons per day (mgd). Millbury has an average daily flow of 1.2 million gallons per day (mgd), however the Town currently has no limitations on discharge. The District, which currently consists of the Cherry Valley Sewer District, the communities of Auburn, Holden, Millbury, Rutland, West Boylston, and Worcester, and portions of the communities of Oxford, Paxton, Shrewsbury, and Sutton, was created by the Massachusetts General Court in 1968. The Upper Blackstone Wastewater Treatment Facility went on line in 1976.

The District recently completed \$80 million in plant improvements that include improved air pollution controls, construction of a modern landfill, modernized laboratory and administration facilities, and the first phase of an ongoing plant improvement project. This phase is part of a \$180 million plant improvement project that will be completed in four phases over the course of nine years. With a new permit on the horizon, it may be necessary to design and build a yet to be determined new system. The driving force behind this new permit is the need to reduce phosphorus and nitrogen levels. Phosphorus is the most important nutrient for enhancing vegetation growth in the river itself, while nitrogen is a more critical nutrient in the salt water of Narragansett Bay. Both may require additional controls in order to achieve the water quality goals for the Blackstone River in the future.

Millbury is currently in Phase II of a \$21 million sewer expansion program, bringing sewer capability to nearly 800 homes and businesses in the Laurel Heights and Lake Singletary area (affecting 11 roadways and approximately 222 homes), Greenwood Street area (affecting the Massachusetts Turnpike Pump Station, 6 roadways and approximately

115 homes), East Millbury area (affecting 22 roadways and approximately 267 homes) and Park Hill Avenue and Martin Street area (affecting 4 roadways and approximately 93 homes). In Phase III, three more pumping stations will be added, bringing the total to 17 stations. Once the expansion project is complete, approximately 75 – 80% of Millbury's residents will be served by public sewer.

The Town relies on ground water for its water supply. Aquarion Water Company, a private water supply company, maintains four wells located on two different aquifers for the town supplied water system. The water from the Millbury Avenue Wells is filtered at the Millbury Avenue treatment facility to provide protection from microbes. The water from the two Jacques Wells is treated with ion exchange to remove perchlorate, an accelerant used in explosives and rocket fuel that was discovered in the Town's water supply in 2004. Aquarion Water Company also owns the Burbank Reservoir, which augments Millbury's groundwater supplies and acts as the system's only water storage facility. Constructed in 1894, the Burbank Reservoir has a capacity of approximately 1.49 million gallons.

The public water distribution system follows major roadways, supplying approximately 9,200 people with water. Many areas, especially west of Greenwood Street, have private wells. The average daily demand for the town supplied water system during 2006 was 1.6 million gallons. During high demand periods, water from the City of Worcester supplemented the supply, but that accounted for less than 0.01% of total usage. The distribution system is also interconnected with Grafton's supply, which can be tapped in emergencies and during periods of heavy demand. Approximately 5.5% of the demand in 2006 was unmetered water associated with street cleaning, fire protection, undetected leaks, and unauthorized use. According to the Water Supply and Distribution System Study, Millbury's total allowed annual average daily withdrawal is approximately 2.02 million gallons. Projections indicate that the system will exceed its permitted withdrawal volume in approximately 2022; however, with a maximum daily pumping rate of 3.37 million gallons per day, the wells are more than sufficient to meet the needs of current and future residents.

Aquarion Water Company has launched several efforts to improve Millbury's water distribution system over the years. One recent improvement involves pump upgrades that will enable Aquarion Water Company to withdraw 1,400 gallons per minute instead of the 800 gallons per minute currently withdrawn. Although the pumps are already in place, Aquarion must obtain approval from the Massachusetts Department of Environmental Protection before increasing water

withdrawals. Other ongoing or recently completed improvements include hydrant upgrades, operating procedure upgrades and the installation of generators to guard against electricity outages at the Jacques and Millbury Avenue Wells. As part of the Clear View Estates Subdivision approval, a new booster station will be installed in the Park Hill area. This will enable approximately 80 new households to be incorporated into the system and will improve fire protection for that area.

*Long-term  
Development Patterns*

In 2000 the Executive Office of Environmental Affairs directed and funded build-out analyses for all 351 municipalities in the Commonwealth in order to provide a current picture of the level of development in each. The Central Massachusetts Regional Planning Commission carried out the analysis for most of the towns in central Massachusetts, including Millbury. Using aerial imagery and other geographic data, this effort was designed to show what each town might look like if all the developable land were to be built upon under the then-current zoning restrictions.

The study set aside already developed land, permanently protected land and land that would not be buildable due to environmental constraints (including wetlands and steep slopes), and then considered the remaining land in the various zoning districts without regard to property boundaries. The number of acres of developable land in each residentially zoned district was calculated, along with available land in business and industrial zoning districts. The study then estimated the number of new residential lots that could be created from this acreage and calculated the likely number of new residents based on the current size of the average household. Similar calculations yielded the maximum available area for new commercial or industrial construction. This represents the maximum possible growth that the town could achieve under the current zoning regulations. A summary of the results is shown in Table 8.

Using these criteria Millbury has the potential for 3,068 new residential dwelling units, or 62% more lots than existed in 2000. These new lots would bring 7,882 new residents of which 1,296 would be school children. New residents would also have an impact on services; for instance, residential water use from both municipal sources and private wells would increase 591,300 gallons per day (gpd), from 958,800 gpd to 1,550,100 gpd, municipal solid waste would increase 4,745 tons from 7,710 tons to 12,455 tons and roads would increase 51 miles, from 67 miles to 118 miles.

**Table 8:  
SUMMARY BUILDOUT STATISTICS for MILLBURY  
(New Development and Associated Impacts)**

Developable Land (sq.ft.)	224,246,880
Developable Land (acres)	5,148
New Residential Lots	3,068
Comm./Ind. Buildable Floor Area (sq. ft.)	3,042,739
Residential Water Use (gallons per day)	591,281
Comm./Ind. Water Use (gallons per day)	228,205
Municipal Solid Waste (tons)	47,455
Non-Recycled Solid Waste (tons)	2,877
New Residents	7,882
New School-Age Children	1,296
New Road Miles	50.98

Notes:

1. "Residential Water Use" is based on 75 gallons per day per person.
2. "Comm./Ind. Water Use" is based on 75 gallons per 1,000 square feet of floor space.
3. "Municipal Solid Waste" is based on 1,206 lbs per person per year.  
All waste estimates are for residential uses only.
4. "Non-Recycled Solid Waste" is a subset of Municipal Solid Waste and is based on 730 lbs per person per year ending up in a landfill or incinerator.
5. The number of "Residents" at buildout is based on the persons per household figure derived from the 1990 US Census.
6. The number of "Students" at buildout is based on a student per household ratio taken from 1990 US Census data.
7. "New Road Miles" are based on the assumption that 60% of the new lots will have required frontage on new subdivision roads (excluding Business districts).

To put this into perspective, Millbury has a total land area of about 10,400 acres and the analysis shows that 5,148 acres or 49% is still available and zoned for building more houses. The 2006 school enrollment was 1,973 students and the population was about 13,500. At present, only 917 acres of land in Millbury are permanently protected, either as town-owned or

other conservation land (381 acres), cemeteries (13 acres), Aquarion Water Company property (74 acres), state-owned wildlife management areas (187 acres) or agricultural preservation restrictions (262 acres). This is less than 9% of the area of the town. Only about 267 acres of land in Millbury, or less than 3%, are currently set aside for recreation purposes, and 180 acres of that are the school facilities (Elmwood Street School, Shaw School and the Millbury Junior/Senior High School). If we accept that the maximum population of Millbury could be 20,666 under the assumptions of the buildout analysis, then Millbury will be 62% built out in 2000, 66% built out by 2010, and 71% built out by 2020. The majority of the new development, an anticipated 980 dwellings, will be constructed within the rural Suburban I District in West Millbury, the Suburban III District around Grafton Street and the Suburban II districts along the town's border with Sutton.

The buildout analysis compiled by CMRPC is conservative for three primary reasons. First, multi-family homes are permitted in most residential and suburban zoning districts via special permit and the current trend in Millbury calls for the construction of new multi-family homes. In fact, multi-family homes constituted 82% of new construction residential building permits issued in 2002, 77% in 2003, 52% in 2004, and 63% in 2005. Given this reality, the CMRPC assumption that all residentially zoned land will yield single family homes is unrealistic. Second, the buildout analysis did not take into account the widespread expansion of the sewer system that is currently underway and provision for municipal water service in certain areas of town. Minimum lot size requirements decrease in all residential and suburban districts, except the Suburban 1 District, if lots are served by municipal water, municipal sewer, or both municipal water and sewer. Therefore, the buildout analysis assumed larger minimum lot sizes in many areas than is actually required under current zoning regulations. Third, the buildout analysis does not take into account infill development on small to medium-sized lots. The consequence of these assumptions is that Millbury should expect many more than the 3,068 new dwelling units and 7,882 new residents forecast in the buildout analysis, although the timing of those new residential units cannot be forecast with any accuracy.

Despite its conservative assumptions, the CMRPC buildout analysis is helpful. It shows Millbury planners and residents where the community stands in terms of its ultimate development scheme and provides the opportunity for Millbury's stakeholders to determine if this development scheme is desired (See Official Zoning Map on Page 33). Surveys of Millbury residents have shown that they value open space and that preservation of open space for water supply needs, recreation,

conservation, and agricultural purposes is important to them. The opportunity to preserve those spaces, however, is rapidly slipping away and it will take a concerted effort to keep the spaces that define the Millbury community intact for the next and coming generations.

## Zoning Map

## Section 4 – Environmental Inventory and Analysis

**Geology, Soils and Topography** The area of the Town is 15.84 square miles and averages approximately 415 feet above sea level. The land, being roughly 2 miles north to south and approximately 6 miles east to west, is hilly: elevations begin at about 350 feet above sea level. Mt. Ararat is about 730 feet high and the highest point in West Millbury is approximately 800 feet above sea level.

*Geology* The Town of Millbury lies between two regional thrust faults, the Clinton-Newbury fault zone in the west and the Bloody Bluff Fault in the east. The terrain that is defined by these two faults is called the Nashoba Terrain. The rock assemblage of the Nashoba Terrain is called the Nashoba Formation. In Millbury the Nashoba Terrain consists mostly of metasedimentary rocks, metamorphosed biotite schists and gneisses.

When the glacier receded it left behind many hills and prominences including Mount Ararat, a bedrock peak or monadnock, which rises about 215 feet above Brierly Pond at its base. Three drumlins (elongated, streamlined hills of glacial till) occur in Millbury, including Prospect Hill and the two northeast/southwest running hills that mark the southern border of Dorothy Pond. Drumlins are formed by the ice sheet encountering an obstacle which it is easier to rise up and go over than transport. Drumlins commonly consist of Wisconsinan glacial till deposited on top of the older Illinoian glacial till. The glacial advance and retreat also helped create the rolling hills including Grass Hill, Park Hill, and Dorothy Hill, by eroding the bedrock and creating the gentle slopes. Many glacial erratics have been deposited in different parts of the town and include a few boulders and many fragments of compact, soft textured soapstone, used by the Native Americans.

Other glacially derived deposits are located around Millbury, derived by the glacial meltwater and ice contact drift, or kames, collectively called the Blackstone Valley Outwash Deposits. The deposits form the local sand and gravel pits in southeastern Millbury. The Blackstone River and its tributary streams, Broad Meadow Brook, Dorothy Brook, Singletary Brook, and Ramshorn Brook are in the Blackstone Outwash Deposits. The Town's major ponds, Ramshorn Pond, Lake Singletary, Shiner Hole, Brierly Pond, Howe Pond, Slaughterhouse Pond, Hathaway Pond, Woolshop Pond, and Dorothy Pond are all directly linked to the deposition of the Blackstone Valley Outwash.

*Soils* The predominant soil types as described in the Soil Survey of Worcester County, Massachusetts, Southern Part, a document produced by the United States Department of Agriculture and Natural Resources Conservation Service in 1992, are loamy sands and sandy loams, and in

large areas the soil texture is rough and stony. Forty seven percent of the town is covered with soils classified as the Paxton and Canton soil types. These extremely stony, fine sandy loams are predominantly glacial till, glacial moraine and ice contact drift. Paxton soils conformably overlay glacial till, or hardpan, and have very slow permeability. An 1827 agricultural survey of the Town of Millbury stated:

"...(T)he southeastern exposure presents a deep rich loam to the full influence of the sun. It seldom fails to afford a rich reward to the well directed efforts of the farmer... It is a fine siliceous loam, rather moist, from one to three feet deep... The town generally is better fitted to grass, maize, barley, and oats, than to those vegetables which are required to withstand the severity of winter and particularly the heavings of frost under the sudden changes of spring; and more favorable, perhaps, to grazing than to tillage...

The Surficial Geology and Soils Map on page 36 dramatically shows that large areas of the western part of Millbury are severely limited for development. The limitations to development are primarily the result of wetness, slope, depth to bedrock, and rockiness of soils. These factors all increase the cost of development in these areas. Most areas with slight to moderate limitations have already been developed.

**Landscape  
Character**

Millbury's rich visual character reflects its history and the limitations to its development, especially soils. The Blackstone River and its tributaries form valleys between mostly forested rolling hills. Nineteenth century brick mill buildings with their walking scale villages retain much of their historic flavor. Residents seem to value the traditional mixed-use character of these villages and the proximity to natural areas, wetlands, farms, and forests on the surrounding hills. Much of the visual character of these rural hillsides is provided by private undeveloped land that has little or no long term protection as open space. It has been too expensive to develop because of the soil limitations mentioned above, but as pressures for new building sites grow, some of these important natural areas are sure to be developed unless they are protected.

**Water Resources**

The Blackstone River, its tributaries, and the town's ponds are the most significant surface water features shown on the Water Resources Map (See page 37). Several of Millbury's ponds owe their existence to the Town's industrial past. Millbury contains four major ponds, ranging in size from the 18-acre Brierly Pond to the 330-acre Lake Singletary. The

## Surficial Geology and Soils Map

Water Resources Map

Town owns and maintains the dams that form Brierly, Dorothy, Ramshorn and Lake Singletary. Specific facts about the various Millbury ponds that are worthy of note are displayed in Table 9:

**Table 9:  
Millbury Pond Characteristics**

<b>Pond Name</b>	<b>Total Area (Acres)</b>	<b>Great Pond?</b>	<b>Public Access?</b>
Brierly	18 acres	No	Yes
Dorothy	148 acres	Yes	Yes
Hathaway	10 acres	No	No
Howe Reservoirs	16 acres	No	No
Howe	6 acres	No	No
Ramshorn	117 acres	Yes*	No
Riverlin Street	7 acres	No	No
Shiner Hole	4 acres	No	No
Singletary	330 acres	Yes	Yes
Slaughterhouse	8 acres	No	No
Woolshop	8 acres	No	No

Source: U.S. Environmental Protection Agency, National Assessment Database

\*Classified as flowed great pond, meaning that the impoundment transformed it into a great pond. It was originally less than 10 acres in size in its undammed state.

Public access to Millbury's water resources is very limited. The Blackstone River has informal canoe access points at McCracken Road, near the Blackstone River Bikeway, and at Riverlin Street, across the street from Goretto's Market. More formal launch areas have been proposed in conjunction with the Blackstone River Bikeway. Brierly Pond has an undeveloped 22-acre town-owned area known as Kiwanis Beach that is used for fishing and a 1-acre parcel near the dam that serves as a parking area and informal canoe launch site. Lake Singletary has a Public Access Board boat ramp with parking for 20 cars and the Town owns a small .3-acre undeveloped site near the outflow of Singletary Brook where the dam and outlet works are located. None of the other streams or lakes has any designated public access, although some of the

streams run through already publicly protected open space. The town recently acquired an attractive site on Little Dorothy Pond that may be suitable as a much-needed town swimming beach; however water quality testing revealed the presence of elevated concentrations of heavy metals which may pose a health risk to swimmers. In addition to this parcel, the Town owns a 4-acre wooded parcel on Big Dorothy Pond nicknamed Oliver Perry Park. The parcel was obtained by the Town through the tax title process in 1949. Most Millbury residents are unaware that the Town owns this parcel, therefore it is little used.



Boat Ramp at Singletary Lake

### *Blackstone River*

Millbury's dominant water feature is the Blackstone River, which begins in Worcester, Massachusetts at the confluence of the Middle River and Mill Brook. It meanders in a southeasterly direction through eight Massachusetts communities and nine Rhode Island communities before flowing over the Slater Mill falls into the Seekonk River at the head of Narraganset Bay in Providence, Rhode Island. The Blackstone River's average flow is about 862 cubic feet per second, although this varies greatly due to storms and draught, and it drains an area of 472 square miles, about one-third the size of Rhode Island. The majority of the drainage area (373 square miles) is in Massachusetts.

As mills were built along the river and villages were developed, untreated sewage, detergents, solvents, heavy metals and other industrial wastes were disposed of in its waters. The Blackstone River became known as one of the nation's most polluted rivers. Antipollution laws and the construction of waste water treatment plants have improved the water quality of the river in recent years, but more must be done to clean up this important natural and recreational asset. As development

continues polluted runoff from built-up areas will increase. The loss of wetlands and vegetated buffer zones along the river in the past has reduced the capacity of these natural systems to purify the water. These factors and remaining unknown sources of pollution diminish the river's wildlife, scenic, and recreational values. The designation of the Blackstone River Valley as a National Heritage Corridor has done much to focus attention on improving water quality and access.

Formed in 2000, the Blackstone River Coalition is a partnership of organizations, businesses, state agencies, municipalities, and individuals that has set the common goal of a “fishable, swimmable Blackstone River by 2015”. To accomplish this goal, the Coalition is working with state environmental agencies in Massachusetts and Rhode Island. Their efforts include mandated upgrades to several wastewater treatment plants, including the Upper Blackstone plant in Millbury, public awareness campaigns to reduce non-point source pollution, volunteer water quality monitoring efforts, stream flow efforts, wetland and riparian area restoration, and land/habitat preservation efforts.



View of Blackstone River from West Main Street

*Flood Hazard Areas*

The hills and valleys of Millbury are depicted in the federal flood hazard hazard areas map. Areas along the valleys of the Blackstone River and its tributary streams are subject to periodic flooding, while the hillside and upland areas of both East Millbury and West Millbury are not. Areas, including both low-lying uplands and wetlands, along north-flowing Ramshorn Brook are subject to flooding, as are areas on the perimeter of Lake Singletary, Brierly Pond, Woolshop Pond, Howe Pond, and low-lying areas along Riverlin Street. Flood Hazard Areas are depicted on the Water Resources Map.

*Wetlands*

Many wetland types, from vernal pools and forested wetlands to floodplains, are found in the valleys, between the town's many hills. These hot spots of biological diversity are nature's way of ensuring good water quality. Both inland wetlands and floodplains perform crucial functions including pollution filtration, flood storage and control. Supporting approximately 43% of the nation's rare and endangered species, wetlands are home to an abundance of wildlife. Since they are also common recharge zones for groundwater sources, it is important that Millbury identify and protect its wetlands.



Vernal Pool off of Braney Road

As depicted on the Water Resources Map, one of Millbury's most extensive wetland areas is along Ramshorn Brook as it flows north from Ramshorn Pond through West Millbury and into Pondville Pond in Auburn. Stowe Meadows and Soles Swamp are parts of this system of wetlands that have been acquired by the town and are protected open space; other parts are on private land. There are also some scattered areas of wetlands in East Millbury along Cronin Brook and the boundary with Grafton; and an area to the east of Dorothy Pond at the foot of Dorothy Hill and along Dorothy Brook. Smaller wetland areas occur

throughout the town and add important wildlife habitat and visual diversity to the landscape character.

Though large, relatively undisturbed wetlands remain in Millbury, land use practices and future residential, commercial and industrial development threaten to destroy them. Presently, Millbury's wetlands are not protected sufficiently. The Clean Water Act prohibits virtually any ground disturbing activities within 100 feet of all wetlands unless approved through special permit. However, according to the National Audubon Society, wetlands throughout the United States are converted to development or agriculture at the rate of 100,000 acres a year.

*Aquifer Recharge  
Areas*

The town takes its drinking water supply from two major aquifers, the Dorothy Pond Aquifer and the Blackstone River Aquifer. Both of these aquifers are classified by the United States Geological Survey's Water Resources Division as having potential for high water yields. The glacially deposited sand and gravel of these aquifers can provide reliable sources of high quality drinking water because it is naturally filtered as it passes through the microscopic spaces between sand grains. Bacteria from sewage and most other pathogenic contaminants are removed in a few hundreds of feet. Organic chemicals generally cannot be "filtered out" so it is important that well sites are removed from potential sources of such contamination and protected, where possible, by large tracts of publicly owned land and/or via regulatory authority.

Millbury is a relatively urbanized town with historic mill sites, residential, commercial, and modern industrial areas. Since hazardous chemicals can enter the groundwater supply from many sources there is always a potential for the drinking water to become contaminated. To prevent such contamination the town has designated an Aquifer and Watershed Protection District and implemented "Best Management Practices" to reduce the impact of road salting on the water supply. The town has protected 74 acres around its existing wells. Unfortunately, the wells and their aquifers are located in some of the most developed sections of town and there is very little opportunity to protect additional land through open space acquisition. It may be prudent, however, to expand the jurisdiction of the Aquifer and Watershed Protection Overlay District to include the Dorothy Pond and Blackstone River Aquifers.

**Vegetation**  
*Forests*

Millbury's forest-covered hills, open fields and cropland, pastures, marshes, and forested wetlands provide a diversity of habitats for wildlife and many potential opportunities for citizens to enjoy the outdoors. Thirty seven percent (5,200 acres) of the town is covered in forests, including stands of hardwoods, evergreens, and mixed stands. Hardwood forests are dominated by oaks, but also contain cherry,

maples, birch, aspen, beech, hickory, butternut, ash, chestnut, willow, and elm. Forested wetlands are dominated by red maple, but also often contain white pine. Softwood forests are dominated by white pine, but also contain red pine, spruce, and hemlock.

These forests include both mature second growth stands and areas of immature trees. The mature forests generally have a clearer understory and provide good opportunities for hiking. Even some of the immature forests on especially poor soils are relatively open and offer opportunities for trails. Immature forests with thick understory shrubs and ground covers offer significant wildlife habitat.

*Fields and Other  
Open Areas*

Cropland, pasture, unforested wetland, and the open water of the town's many ponds, the Blackstone River and its tributary streams, all contribute diversity to the Town's landscape character and wildlife habitat. Much of this undeveloped land already provides picturesque scenery for residents and much of it could provide areas for hiking, nature study, and other outdoor activities if it were made accessible to the public.

**Fisheries and  
Wildlife**

The nearby Massachusetts Audubon Society's Broad Meadow Brook Wildlife Sanctuary in Worcester has many similar habitats and has kept records of its flora and fauna. One hundred sixty-four species of birds; twenty-three species of mammals; five species of salamanders and newts; six species of frogs and toads; three species of turtles; four species of snakes; seventy-two species of butterflies and skippers; and five hundred forty-nine species of plants have been recorded at the sanctuary. Millbury's much larger area and greater diversity of habitats would be sure to have an even more diverse flora and fauna than the relatively small sanctuary. Some of the highlights of the sanctuary's wildlife are listed below:

<p><i><b>Mammals</b></i></p> <p>White-tailed Deer Short-tailed Weasel Mink Red Fox Coyote Cottontail Rabbit Opossum Raccoon Skunk Muskrat Little Brown Bat Big Brown Bat</p>	<p><i><b>Frogs and Toads</b></i></p> <p>Wood Frog Green Frog Bull Frog Spring Peeper Gray Tree Frog American Toad</p> <p><i><b>Turtles</b></i></p> <p>Snapping Turtle Painted Turtle Spotted Turtle</p>	<p><i><b>Salamanders and Newts</b></i></p> <p>Spotted Salamander Red-backed Salamander Dusky Salamander Two-lined Salamander Red-spotted Newt</p> <p><i><b>Snakes</b></i></p> <p>Black Racer Garter Snake Northern Water Snake Ring-necked Snake</p>
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### ***Birds***

Common Loon	Turkey Vulture	Black-billed Cuckoo
American Bittern	Osprey	Great Horned Owl
Great Blue Heron	Bald Eagle	Common Nighthawk
Green Heron	Red-tailed Hawk	Belted Kingfisher
Wood Duck	Virginia Rail	Red-bellied Woodpecker
Green-winged Teal	American Woodcock	Willow Flycatcher
Eastern Bluebird	Wood Thrush	Red-eyed Vireo
Blackpoll Warbler	American Redstart	Yellow-rumped Warbler
Scarlet Tanager	Rose-breasted Grosbeak	White-throated Sparrow

Note: Some of these are the larger but less commonly seen birds. There are of course the more commonly seen: chickadees, sparrows, wrens, robins, bluejays, cardinals, finches, crows, blackbirds, ravens, orioles, etc.

### *Fishes*

Millbury has a wealth of ponds and streams that provide habitat for bass, pickerel, sunfish, catfish, and other warm water fish. Fishing is a popular activity, especially in Lake Singletary, where the Massachusetts Division of Fisheries and Wildlife annually stocks trout.

### *Butterflies*

A greater diversity of butterflies and skippers (72 species) has been found at Broad Meadow Brook than at any other Massachusetts Audubon Sanctuary. The sanctuary has a major electric power transmission line running through it and the majority of butterfly and skipper species have been found along this right-of-way. Transmission line rights-of-way have a diversity of plants that are food supplies for these colorful insects. Millbury's extensive transmission line rights-of-way are also likely to have a large diversity of butterflies and skippers.

### *Rare, Threatened, and Endangered*

According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP), the state agency responsible for protecting the approximately 190 species of animals and 258 species of plants that are listed as Endangered, Threatened or of Special Concern in Massachusetts, Millbury has one record of a state-listed rare wetland species (wood turtle).

### *Special Habitats*

The NHESP provides maps of "priority habitats" that show the habitats of rare plants and animals, as well as "estimated habitats" where rare wildlife have been observed over a 25 year period.

Priority Habitats are mapped areas to be used with the Massachusetts Endangered Species Act (MESA) and its implementing regulations (See Scenic Resources and Unique Features Map on page 46). All state-listed species are protected pursuant to MESA, including state-listed plants and wildlife with strictly upland habitat requirements that are not protected

under the Wetlands Protection Act. Habitat alteration within Priority Habitats is subject to regulatory review by the NHESP.

Estimated Habitats of Rare Wildlife are a sub-set of Priority Habitats that are used with the Wetlands Protection Act Regulations. If a proposed project falls within an Estimated Habitat and is also subject to local Conservation Commission review, then the applicant must submit the Notice of Intent (NOI) to the NHESP for review.

MESA protects state-listed rare species and their habitats by prohibiting the "Take" of any plant or animal species listed as Endangered, Threatened, or of Special Concern by the Massachusetts Division of Fisheries & Wildlife. "Take" may result from actions that directly kill or injure state-listed species, as well as activities that disrupt rare species behavior and habitat.

The NHESP map depicts the following three areas of Priority Habitat of Rare Species and also Estimated Habitat of Rare Wildlife in Millbury (see Scenic and Unique Features Map):

- An area extending across the Millbury/Auburn Town line that is located north of West Main Street and south of Stowe Road. It encompasses agricultural fields, forested areas, a small pond, and wetlands associated with Stone Brook, which is located in Auburn. Twenty-eight acres of the Millbury portion of the site is located within the Davidson Sanctuary (a.k.a. Fay Grant Bird Sanctuary), which is owned and managed by the Millbury Conservation Commission.
- An area extending across the Millbury/Sutton Town line that is located east of Dolan Road and south of Ramshorn Pond. This area encompasses Potter Hill and Welsh Pond, a certified vernal pool, three wetland areas, agricultural fields, forested areas, and high tension wires. The Millbury portion of the site is privately owned and contains no permanent protection; however most of the land is enrolled in the Chapter 61A tax abatement program.
- An area extending across the Millbury/Grafton Town line that is located north and south of Grafton Street. This area follows Cronin Brook as it meanders through forests and farm fields to its confluence with the Blackstone River north of Elmwood Street in

## Scenic Resources and Unique Features Map

Grafton. The Millbury portion of the site is privately owned and contains no permanent protection. Most of the area is owned by Paul Revere Village, a multi-family condominium complex.

One area of Priority Habitat of Rare Species is located at Mt. Ararat. This area is privately owned and contains no permanent protection.

NHESP has prepared a statewide BioMap that identifies “Core Habitat” areas of rare species, and “Supporting Natural Landscape” areas that buffer Core Habitat and provide habitat for common species in Massachusetts. Although Millbury does not contain any BioMap Core Habitats, it does contain a BioMap Supporting Natural Landscape that is associated with Core Habitat BM974. Located in the Town of Auburn, this Core Habitat encompasses Eddy Pond and a variety of wetland habitats, including a moderate-sized, good-quality Level Bog community and an Atlantic White Cedar Swamp that supports rare species such as Hessel’s Hairstreak butterfly and Great Laurel. A fraction of the cedar swamp habitat is located on municipal conservation land, but the majority of the Core Habitat is unprotected.

#### *Wildlife Corridors*

Millbury's wealth of natural resources has always been an important factor in its development. Millbury’s rolling hills, the Blackstone River and its tributaries, especially Ramshorn Brook, Dorothy Brook, Cronin Brook, and Singletary Brook are also important wildlife corridors. These natural areas and their wildlife are enjoyed by many residents who walk the trails in some of the town's protected conservation land and they are appreciated by everyone as they travel about the town and view its forested hillsides, ponds, and rivers.

Millbury, with its many power transmission lines and a gas pipeline, has a ready built and extensive network of wildlife corridors. Many animals are known to use these undeveloped corridors to move from one habitat to another. Fox, deer, and coyote travel these routes especially at night. Hawks hunt the grasses and shrubs for small mammals, birds, and insects. Many of these transmission lines may also be appropriate for the development of hiking trails connecting the town’s open spaces.

#### **Scenic Resources and Unique Environments**

Historic mills, villages, and individual houses surrounded by forest-covered hills and farm fields provide a record of the town’s history and a source of scenic enjoyment for today’s residents and visitors. The following is a list of scenic landscape areas and unique environments identified by residents and the Open Space Committee:

#### *Scenic Landscapes*

- Roads of West Millbury, especially West Main Street, Greenwood Street, McCracken Road, Elmwood Street, Stowe Road, Carleton

Road, Auburn Road, North and South Oxford Roads, Harris Avenue, Davis Road, and Riverlin Street in East Millbury.

- Blackstone River and its tributary streams
- Lakes and Ponds
- Stowe Farm and other farms in West Millbury
- Georgia and Martha Deering Wildlife Management Area
- View from the Clearview Country Club
- Old Common Road at the base of Mount Ararat
- Millbury Branch railroad bed

*Geological Features*

- Mount Ararat, a bedrock peak or monadnock
- Drumlins – Prospect Hill and the two northeast to southwest trending hills that mark the southern border of Dorothy Pond
- A few boulders and many fragments of compact, soft textured soapstone, have been found in different parts of the town
- The Blackstone River and its tributary streams, Broad Meadow Brook, Dorothy Brook, Singletary Brook, and Ramshorn Brook
- The rolling hills including Grass Hill in West Millbury, Park Hill, and Dorothy Hill
- The ponds including Ramshorn Pond, Lake Singletary, Shiner Hole, Brierly Pond, Howe Pond, Howe Reservoir, Slaughterhouse Pond, Hathaway Pond, Woolshop Pond, and Dorothy Pond

*Historic Areas*

- Hilltop Village – Old Common
- Old Common Road at the base of Mount Ararat
- Mill complexes – Felter’s Mill and Windle Mill along Blackstone River, Mayo Woolen Mill, S&D Spinning Mill, West End Thread, Glover’s Mill
- Mill villages – Bramanville, West Millbury, Buck’s Village
- Downtown or Armory Village
- Historic houses – Asa Waters House and Torrey Mansion
- Mill workers housing and historic neighborhoods

*Environmental Areas*

- Blackstone River – water quality improvement efforts
- Lakes and ponds
- Wetlands

*Heritage  
Landscapes*

The rapid pace at which Millbury's open spaces have been converted to commercial and residential development and the associated loss of cherished scenic, cultural and ecological resources prompted Millbury to participate in the Heritage Landscape Inventory Program, a program offered by the Massachusetts Department of Conservation and Recreation, John H. Chafee Blackstone River Valley National Heritage Corridor and the Quinebaug-Shetucket Rivers Valley National Heritage Corridor for the purpose of identifying a wide range of landscape resources, particularly those that are significant and unprotected, and compiling strategies for preserving heritage landscapes. Heritage landscapes are defined as "special places created by human interaction with the natural environment that help define the character of a community and reflect its past".

In March 2007 a heritage landscape identification meeting was held during which residents and local officials identified and prioritized landscapes that embody the community's character and its history. The meeting was followed up by a field trip to priority landscapes. Priority landscapes are those that are highly valued and contribute to community character, but do not have any permanent form of protection. Attendees identified the following priority landscapes:

- Old Common and Old Common Road
- Bramanville Village
- Armory Village and Blackstone River Rapids
- Pearson's Dairy Farm, Stowe Farm, Hawk Hill Orchards, and Butler Farm
- Dorothy Pond (Big and Little)

These landscapes served as the focus of the Reconnaissance Report completed in July 2007 that outlines the community's landscape history. The Report also describes the priority heritage landscapes and issues associated with them, discusses broader land planning issues identified by the community, and concludes with preservation recommendations.

**Environmental  
Problems**

Millbury is working hard to address several environmental problems including nonpoint source pollution, hazardous wastes and chronic flooding.

*Nonpoint Source  
Pollution*

As is common in communities throughout the United States, nonpoint source pollution, or contaminated runoff, has contributed to the degradation of Millbury's surface and ground water resources. Potential contaminants include leaking underground storage tanks, failing septic systems, salt/sand applications to roadways, fertilizer run-off from lawns, some agricultural activities, heavy equipment dumps, landfills, processing facilities, and gas stations. These land uses may discharge

sediments, pesticides, fertilizers, chlorides, effluent, and hazardous wastes in water bodies, which in turn harm water quality.

Many of Millbury's ponds, including Brierly Pond, Dorothy Pond, and Lake Singletary, have invasive weed problems and suffer from algae blooms. Fanwort, variable watermilfoil, and Eurasian watermilfoil are three problem weeds affecting ponds in Millbury. The rapid growth of algae and aquatic vegetation has a direct correlation with high nutrient levels resulting from nonpoint source pollutants. Decaying algae and rampant vegetation growth steal oxygen from other life forms, especially fish. Because algae blooms often make the water unsightly, foul-smelling and void of wildlife, the recreation potential of victim lakes and ponds is limited.

An industrial history and development on the town's two aquifers are an ongoing concern for the supply of drinking water. As mentioned previously, two of the Town's municipal wells tested positive for perchlorate. The wells were immediately taken out of service and a water treatment facility was subsequently designed and constructed to continuously remove perchlorate from the water supply of these wells. The facility was completed and the wells returned to active service in April 2005. Shortly after the contamination became public knowledge, the Planning Board began including a condition of approval within all residential, commercial and industrial development decisions that prohibits the use of perchlorate in blasting activities. In January 2007, this prohibition was formally incorporated into the Planning Board's Rules and Regulations Governing the Subdivision of Land. Also, the Fire Department is in the process of amending its blasting permit form so that blasting companies must indicate if perchlorate is present in its blasting material. If it is present, the Department will give the blasting company a copy of the Massachusetts Department of Environmental Protection (DEP) recommendations aimed at minimizing potential environmental contamination.

*Hazardous  
Waste Sites*

The DEP is responsible for investigating and enforcing cleanup of sites contaminated with toxic or hazardous wastes. Since 1993, 127 uncontrolled releases of oil or other hazardous wastes were reported in the Town of Millbury (See Appendix B). These sites are in various stages of remediation- some releases are undergoing initial investigation, other spills are being addressed by site assessments and/or remedial actions, and some release sites have been cleaned up.

Three hazardous waste sites are under the jurisdiction of the Town of Millbury. One municipally-owned site is the Asa Waters Mansion, located at 123 Elm Street. A 1,000-gallon steel storage tank was removed from the basement of the Asa Waters Mansion in 2001. During the

removal, fuel oil was detected in the soil, and there were other indications that the tank had been leaking for some time. The DEP declared the location a “disposal site,” and required the area to be remediated. At the December 2007 Special Town Meeting, the Town allocated the funds necessary to pay assurance fees owed to the DEP and \$15,000 for the purpose of hiring Parker Environmental Corporation to complete cleanup efforts. In February 2008, the Parker Environmental Corporation submitted a Phase II Comprehensive Site Assessment Report and Phase III – Remedial Action Plan to the Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup in compliance with statutory requirements.

A second municipally-owned site is located at 86 McCracken Road, a 5-acre property that was taken by the Town via tax title in 1996. The property was used for the storage of automobiles, automobile parts and miscellaneous debris including lawn care equipment, tires, construction debris and other solid waste materials. Four 275-gallon steel above ground heating oil storage tanks were found on the site, as well as numerous 5-gallon buckets. Testing of drinking water wells located on abutting residential properties revealed the presence of MTBE (a highly soluble fuel oxygenate that is a possible human carcinogen) in very low concentrations, as well as the presence of petroleum hydrocarbons, lead and thallium in the soil. The Town completed DEP-mandated cleanup efforts in July 2005. The Town has explored the possibility of selling the property; however this may prompt additional environmental testing that could reveal further contamination that the Town would be liable to clean up. With this in mind, the Town may wish to use the property for open space/recreation purposes as the cleanliness standard for open space/recreation properties is generally less restrictive than that for residential purposes.

#### *Landfill Site*

In 1990 Millbury closed and capped its landfill located just to the east of Dorothy Pond off Riverlin Street. Water quality and landfill gas analyses and site inspections have been conducted annually since the landfill was capped. In June 2006, the Town received correspondence from the DEP regarding problems with the cap. The DEP required the Town to: repair/replace a monitoring well, submit a work plan, eliminate evidence of leachate discharge into Dorothy Pond, act to improve water quality in Dorothy Pond, provide a complete maintenance plan to repair the cap, remove woody plant growth at the site, provide ground water samples, provide a work plan to show the impact of the leaks on Dorothy Pond, and conduct a household hazardous waste collection day. Many of these requirements have been fulfilled to date, including replacement of the

destroyed monitoring well in September 2007. The results of the fall 2007 environmental analyses are pending.

Little Dorothy Pond, which is hydraulically connected to Dorothy Pond but separated by a narrow land mass, is the proposed location of a municipal beach. Wheelabrator Technologies, Inc, a national waste management company with a facility located in Millbury, donated the sand necessary to create the beach in 2003. Analyses conducted in 2002, 2003, 2004, and 2005 revealed elevated concentrations of heavy metals in Dorothy Pond that would appear to pose a risk to a proposed beach on Little Dorothy Pond. These results stalled municipal efforts to complete construction of the beach. In November 2006, Northeast Geoscience, Inc, the contractor who completed an Ecological Stage I Screening Evaluation on behalf of the Town, collected a sediment and surface water sample at the proposed beach location, which is hydraulically downgradient of the landfill. The sample revealed high concentrations of pesticides, semi-volatile organic compounds (SVOCs) and metals; however the source of these contaminants and the potential risk of harm to humans are unknown. Before the Town proceeds with construction of the beach, these questions should be answered through further identification, delineation and analysis of the contaminants.

### *Flooding*

The flood hazard areas shown on the federal Flood Insurance Rate Maps for Millbury indicate that various parts of town are prone to periodic flooding. The largest areas are along the Blackstone River through the center of town, and along Ramshorn Brook in West Millbury.

The full extent of the flooding was apparent in October 2005, when the area was hit hard by torrential rains over several days that drove rivers outside of their banks and flooded businesses and homes. The Millbury Fire Department pumped out approximately 250 to 300 cellars during the October flooding and several roadways, including portions of Howe Avenue, Providence Street and Riverlin Street, were periodically closed to traffic.

Increased flooding is directly related to the loss of wetlands, fields and forests that previously absorbed storm water. By transforming natural areas into roads, parking lots, driveways, and roofs, the absorption capacity of the river system decreases 16-fold. The end result is more frequent flooding and higher floodwater levels. The damage caused by the October 2005 storm underscores the need to reduce the future impacts of flooding. This can be accomplished through a multi-pronged approach. For example, the Town can adopt regulations and encourage building practices that eliminate development on the floodplain, limit the amount of land disturbance, and require infiltration of water through the construction of detention basins and water quality swales, installation of

permeable pavement and vegetated rooftops, and reduction of roadway and driveway widths. If implemented, these measures will not only preserve human life, but they will also reduce the rates paid for flood insurance.

#### *Dams*

Some of the Town's dams pose a significant or high risk of loss of life, property damage and interruption of use or service of relatively important facilities if dam failure occurs. The Town accepted ownership of dams previously owned by industrial enterprises. State regulations require owners to conduct engineering inspections of their dams and prepare emergency response plans. The Town engaged GZA GeoEnvironmental, Inc. to conduct inspections of the Dorothy Pond Dam, Lake Singletary Dam, Ramshorn Pond Dam, and Brierly Pond Dam and Dike in 2005. Final reports, with recommendations, were completed in August 2005.

In general, GZA representatives classified the Dorothy Pond dam and appurtenant structures to be in a good, well maintained condition; the concrete "primary" spillway and concrete sidewalls are in fair condition. Various maintenance and repair measures were recommended in the report to correct minor issues identified at the dam; most of which could be performed by the Town's DPW personnel.

Minor problems identified at the Lake Singletary Dam included the need to remove trees, major root systems and other vegetation, clear sediment and debris, establish a riprap channel, repoint stone work, and replace a trash rack. The dam gate was found to be in need of repair, which is scheduled to take place in fall 2008.

The Ramshorn Pond embankment appeared to be in fair to poor condition, while the crest of the dam, roadway, spillway, and concrete sidewalls were in good condition. Suggested improvements included repairing and maintaining the surface water drainage system and roadway, replacing and installing riprap where necessary, removing a chain link fence, trash, brush, trees and other vegetation, clearing sediment and debris, and a variety of periodic monitoring activities. Subsequent to the GZA report, Ramshorn Dam was found to have issues with its gate valve structure. The valve drive mechanism was therefore replaced in 2008.

Problems identified at the Brierly Pond Dam were similar to those identified at Dorothy Pond, Lake Singletary and Ramshorn Pond. Recommendations included removing trees, major root systems and other vegetation, monitoring areas of erosion, monitoring leakage through spillway masonry sidewalls, replacing missing riprap, repairing or replacing a leaking stone masonry sidewall, replacing leaking stoplogs

and installing stoplogs with pins where necessary, and repairing or plugging the existing outlet works at the dam which have been abandoned. All reports recommended further investigation of certain areas/structures. DEM offers grants for dam repairs.



## Section 5 – Inventory of Lands of Conservation and Recreation Interest

**Protected Land** Land that is owned by the town’s Conservation Commission, a conservation land trust, the Massachusetts Department of Conservation and Recreation (DCR), water supply land, cemeteries, and private land that has a conservation restriction or Agricultural Preservation Restriction (APR) on its deed in perpetuity is considered protected. Its future as open space is assured. The following table summarizes the 916.9 acres of land in Millbury that is now permanently protected. The Open Space Resources Map on page 61 shows the town’s existing open space land, including protected and unprotected parcels. Conservation Commission managed sites are also described in narrative form. Since some of Millbury’s permanently protected properties straddle municipal borders, including the Merrill Pond Wildlife Management Area, Martha Deering Wildlife Management Area and Metacomet Conservation Area, the Open Space Resources Map also shows the existing open space in adjacent towns.

<i>Site Name</i>	<i>Owner/ Manager</i>	<i>Area*</i>	<i>Primary Purpose/ Recreation Potential</i>	<i>Zoning/ Funds Used</i>	<i>Public Access</i>
Colton Road Conservation Area Map 31/36	Town of Millbury/ Conservation Commission	53.5 acres (117 acres)	Conservation Medium	S-3 & I-1	Yes Trail/cart path
Stowe Meadows Map 58/4, 59/14, 59/13	Town of Millbury/ Conservation Commission	107.9 acres (150.5 acres)	Conservation Medium	S-1	Yes Trails
Davidson Sanctuary Map 67/2	Town of Millbury/ Conservation Commission	25.7 acres (28.5 acres)	Conservation Medium	S-1	Yes Trails
Soles Swamp Map 77/11-1	Town of Millbury/ Conservation Commission	15.1 acres (34.5 acres)	Conservation Low	S-1	Yes Wetland
Brierly Pond Area Map 79/22, 79/24	Town of Millbury/ Conservation Commission	9.7 acres (23.1 acres)	Conservation Medium	S-1	Yes Trail

<i>Site Name</i>	<i>Owner/ Manager</i>	<i>Area*</i>	<i>Primary Purpose/ Recreation Potential</i>	<i>Zoning/ Funds Used</i>	<i>Public Access</i>
Coldbrook Conservation Area Map 48/60, 48/61	Town of Millbury/ Conservation Commission	(15.6 acres)	Conservation Low	S-3	Yes Wetland
Hayward Glen Conservation Area Map 22/55, 22/65, 22/74, 22/93	Town of Millbury/ Conservation Commission	(11.1 acres)	Conservation Medium	S-4	Yes
Salo Terrace Conservation Area Map 61/56, 61/126	Town of Millbury/ Conservation Commission	(8.2 acres)	Conservation Low	R-1	Partial
Oakwood Heights Conservation Area Map 47/68, 47/81, 47/87, 47/96, 47/100	Town of Millbury/ Conservation Commission	(14.9 acres)	Conservation Low	S-3	Yes Wetland
Park Hill Village Conservation Area Map 21/14, 21/14A	Private/ Conservation Commission	(5 acres)	Conservation Medium	S-4	Yes Trail
Providence Road Cemetery Map 54/124	Town of Millbury	.5 acres (1.3 acres)	Cemetery Low	None	Yes
St. Brigids/ Central Cemetery Map 44/6, 45/40A	Town of Millbury	13.8 acres (7.8 acres)	Historical Low	None	Yes
Dwinell Cemetery Map 34/15	Town of Millbury	(.6 acres)	Historical Low	None	Yes
West Millbury Cemetery Map 83/3	Private	(3.7 acres)	Historical Low	None	Yes
Merrill Pond Wildlife Management Area Map 93/6, 96/?, 97/4,	Massachusetts DCR	20.8 acres (29 acres)	Conservation Low	S-1 DFW	Yes

<i>Site Name</i>	<i>Owner/ Manager</i>	<i>Area*</i>	<i>Primary Purpose/ Recreation Potential</i>	<i>Zoning/ Funds Used</i>	<i>Public Access</i>
Martha Deering Wildlife Management Area Map 24/26, 25/1, 2 undesignated parcels	Massachusetts DCR	(157.6 acres)	Conservation Medium	S-3	Yes Trails
Metacomet Conservation Area Map 56/1	Metacomet Land Trust	(45 acres)	Conservation Low	S-3	No
S. Oxford/W. Main APR Map 75/7, 75/9, 76/5, 76/11, 83/2, 83/42, 88/20	Private	136.4 acres (262.2 acres)	Agriculture Low	S-1 DFA	No

\* Areas from MassGIS. Areas within parenthesis from Assessors records.

*Colton Road  
Conservation  
Area*

This 117-acre parcel is one of the few protected open spaces in East Millbury. It is located east of Dorothy Pond and south of Colton Road. The parcel consists of forested hills that are crossed by two power line right-of-ways which provide some habitat diversity and walking opportunities. The northwest corner of the site abuts wetlands that are associated with Dorothy Brook. The site has no developed trails or other facilities and is managed by the Conservation Commission. The majority of the site is zoned Suburban-3 residential (small lots), but the western portion is zoned I-1 industrial. It is in relatively good condition.

*Stowe Meadows*

This 150.5-acre site is also known as the Stowe-Day Sanctuary. It is located in West Millbury between Stowe Road, Auburn Road and Carleton Road. The site consists of forested hills, a portion of Ramshorn Brook with its associated wetlands, a spring, a massive stone and earth dam, and a small mill pond. The site has 1.75 miles of marked trails and is managed by the Conservation Commission. It is in generally excellent condition. The stone dam is an impressive historic structure.

*Davidson  
Sanctuary*

This 28.5-acre parcel is also known as the Fay Grant Bird Sanctuary. It is located in West Millbury on West Main Street between Stone Road and Stowe Road. The site has woodlands, streams, rolling and some steep hills, and a spring. It is adjacent to other woodlands, pasture, and cropland which give the total area much wildlife diversity. The lowest point at the eastern end of the site abuts a

wetland that flows into Ramshorn Brook. The site has a 1.25-mile-long marked trail and is managed by the Conservation Commission. It is in good condition. In November 2007 the Wheelabrator Group of the Millbury Junior High School obtained permission from the Conservation Commission to use the Sanctuary as the focus for a school project aimed at enhancing its usage. Their project included fixing the existing sign or possibly installing new signage closer to the road, cleaning up trash, removing debris to make the trails more passable, clearly marking the trails, and improving community awareness of the facility.

*Soles Swamp*

This 34.5-acre site is located astride Ramshorn Brook south of Carleton Road. The site is entirely forested wetlands that are part of the wetlands associated with Ramshorn Brook. The site has no facilities and it is managed by the Conservation Commission. It is in excellent condition.

*Brierly Pond  
Conservation Area*

This 23.1-acre site, also known as Kiwanis Beach, was acquired as a potential swimming area on Brierly Pond. It is located off West Main Street on the southwest shore of Brierly Pond. The forested site has about 540 feet of waterfront on the pond and a .5 mile marked trail. It is managed by the Conservation Commission. It is in generally excellent condition.

*Coldbrook  
Conservation Area*

This 15.6-acre site was set aside by the developer of the Village of Coldbrook Open Space Community subdivision. The land is permanently protected open space that was conveyed to the Conservation Commission upon completion of the subdivision. Although the open space contains frontage along Woodridge Lane, this wooded site is not currently being used for recreation purposes. Due to the large percentage of wetlands on the site, it does not have much recreation potential.

*Hayward Glen  
Conservation Area*

This 11.1-acre site was set aside as open space by the developer of the Hayward Glen II Open Space Community subdivision. The land is permanently protected open space that was conveyed to the Conservation Commission upon completion of the subdivision. The open space consists of four non-contiguous parcels that have frontage on subdivision roadways. A large proportion of the largest parcel, which consists of approximately 8 acres of land and contains frontage on both the Matthew Circle cul-de-sac and Brian Circle cul-de-sac, is bisected by a power line right-of-way. Two other parcels are rather small in size, but enjoy some usage by neighborhood residents for recreation purposes due to their open nature. The open space parcel at the terminus of the Jaclyn Rae cul-de-sac has been landscaped by

the abutting property owner and appears to be used as an extension of his backyard.

*Oakwood Heights  
Conservation Area*

This 15-acre site was set aside as open space by the developer of the Oakwood Heights Open Space Community subdivision. The land is permanently protected open space that was conveyed to the Conservation Commission upon completion of the project. The open space consists of five mostly contiguous parcels that have frontage on subdivision roadways. The parcels are mostly wetland, and thus have little to no potential as recreation resources.

*Park Hill Village  
Conservation Area*

This 5-acre site was set aside as open space by the developer of the Park Hill Village Open Space Community subdivision. The land is permanently protected open space that was conveyed to the Park Hill Village Homeowner’s Trust; however a conservation restriction was conveyed to the Conservation Commission. The conservation restriction ensures that the property is used solely for open space and recreation purposes. The open space consists of two non-contiguous parcels that have frontage on subdivision roadways. A hand-blazed trail was constructed on the property by the developer prior to conveyance. Although largely wooded, a portion of the open space was cleared to enable use as a playing field.

*Salo Terrace  
Conservation Area*

This 8-acre site was set aside as open space by the developer of the Salo Terrace Open Space Community subdivision. The land is permanently protected open space that was conveyed to the Conservation Commission upon completion of the project. The open space consists of two non-contiguous parcels. One parcel contains frontage on Salo Terrace; however a large portion of that parcel is devoted to a detention basin. The second parcel, which is heavily wooded, is landlocked. The open space in this development appears to be of low recreation potential.

*Water Supply*

Millbury’s water is provided by a private non-profit corporation, the Aquarion Water Company, which owns several parcels of open space for water supply protection. The following table summarizes the 74 acres of water supply land in Millbury. Because of its importance for ensuring good water quality, this land is considered permanently protected.

<i>Site Name</i>	<i>Owner</i>	<i>Area*</i>	<i>Primary Purpose/ Open</i>	<i>Zoning</i>	<i>Public Access/</i>
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			<i>Space Potential</i>		<i>Land Uses</i>
Aquarion Water Co./ Oak Pond Map 10/35, 10/36, 10/37	Non-profit	1.4 acres (2.2 acres)	Water Supply Medium	S-IV	Yes Forest, well
Aquarion Water Co./Howe Ave. Pumping Station Map 37/67, 38/1, 38/6	Non-profit	65.1 acres (55.2 acres)	Water Supply High	S-IV, R-I, & I-1	Yes Forest, pond, wetland, power line
Aquarion Water Co./Millbury Ave. Map 38/34	Non-profit	(5.2 acres)	Water Supply Low	I-I	No Well, water treatment facility
Aquarion Water Co./Burbank Reservoir Map 79/54	Non-profit	(3 acre)	Water Supply Low	S-II	Yes Storage Facility
Aquarion Water Co./Sutton Road Map 79/106	Non-profit	(.23 acre)	Water Supply Low	S-II	No Pumping Station
Aquarion Water Co./ Blackstone River Map 36/14A, 36/14, 44/14	Non-profit	6.7 acres (19.5 acres)	Water Supply High	R-1	Yes Forest, river, wetland, wells, water treatment facility

\* Areas from MassGIS. Areas within parenthesis from Assessors records.

**Unprotected Lands** The town's parks and playgrounds are not generally permanently protected by restrictions on their deeds. Many of these areas could be sold and/or developed for other uses in the future. The following table summarizes the 317.9 acres of land in Millbury that is now classified as recreation land.

*Recreation Land*

## Open Space Resources Map

<i>Site Name</i>	<i>Owner/ Manager</i>	<i>Area*</i>	<i>Primary Purpose/ Recreation Potential</i>	<i>Zoning/ Funds Used</i>	<i>Public Access/ Facilities</i>
Blackstone River Bikeway Map 36/8, 36/20, 36/21, 36/22	MassHighway	4.5 acres	Recreation High	R-I Federal	Yes Multi-purpose trail, parking
East Millbury Park Map 6/20	Town of Millbury/ Parks & Rec. Commission	1.8 acres (5 acres)	Recreation High	S-III	Yes 2 ballfields, 2 basketball courts, tot lot, picnic tables
James Dizenzo Playground Map 23/43	Town of Millbury/ Parks & Rec. Commission	.4 acres (.4 acres)	Recreation Medium	S-IV	Yes Basketball court
Greenwood Street Playground Map 19/17	Town of Millbury/ Park & Rec. Commission	5.8 acres (9.7 acres)	Recreation High	S-IV & B-II	Yes Ballfield, soccer field, basketball court, swings, picnic tables
Millbury Memorial High School Field Map 36/95	Town of Millbury/ School Department	30.8 acres (30 acres)	Recreation High	R-I	Yes Football field, 2 ballfields, track, open field
Elmwood Street School & Shaw School Map 61/1	Town of Millbury/ School Department	150 acres (151.5 acres)	Recreation High	R-II	Yes 2 basketball courts, soccer field, 2 ballfields, open field, tot lot
Washington Street Playground Map 62/14	Town of Millbury/ Parks and Rec. Commission	4.6 acres (5 acres)	Recreation High	R-I	Yes Ballfield, batting cage, 2 basketball courts, tot lot, concession stand, meeting space, picnic tables
Dorothy Pond Recreational Area Map 31/27	Town of Millbury/ Parks and Rec. Commission	(21.6 acres)	Recreation High	R-III	Yes Trail, picnic tables

<i>Site Name</i>	<i>Owner/ Manager</i>	<i>Area*</i>	<i>Primary Purpose/ Recreation Potential</i>	<i>Zoning/ Funds Used</i>	<i>Public Access/ Facilities</i>
Butler Farm Map 91/1, 91/13	Town of Millbury	(50.5 acres)	Recreation	S-I	Yes Office/meeting space, trails, community gardens
Oliver Perry Park Map 24/9	Town of Millbury	(4.0 acres)	Unspecified Medium	R-III	Yes None
Dorothy Manor School Map 23/1	Town of Millbury/ Pakachoag Daycare	.3 acres (1.5 acres)	Recreation Medium	S-IV	No Tot lot
Millbury Youth Camp Map 62/124	Millbury Youth Camp	15.7 acres (13.5 acres)	Recreation High	R-I	Yes Camping / meeting facility, trails
Lake Singletary Access Ramp Map 85/38	State Public Access Board	(.7 acres)	Recreation High	S-I	Yes Paved boat ramp, parking for 20 cars
Common Map 53/85	Town of Millbury	.5 acres (.5 acres)	Historical Low	B-I	Yes Benches
Windle Field Map 46/142	Town of Millbury/ School Department	5 acres (5 acres)	Recreation High	I-I	Yes Lighted football/soccer field, 2 baseball fields, tennis
West Millbury Playground (Jacques Field) Map 77/7, 77/11-1	Town of Millbury/ Parks & Rec. Commission	13.4 acres (14.5 acres)	Recreation High	S-I	Yes Ballfield, soccer field, basketball court

\* Areas from MassGIS. Areas within parenthesis from Assessors records.

*Agricultural Lands* A major contributor, along with forest lands, to the town's rural character is its agricultural lands. One farm (262.2 acres), listed above, has placed its land in the permanently protected category by selling future development rights to the Agricultural Preservation

Restrictions (APR) Program. Many others participate in the tax abatement program established under The Farmland Assessment Act (Chapter 61), which allows qualifying forest, agricultural and recreational lands to be taxed at its use value rather than full market value. If a landowner intends to sell the classified land or convert it to another use, town officials must be notified by certified mail. The town is granted the right of first refusal and a tax penalty is assessed upon removal of the land from the program. The following table summarizes the 559 acres of agricultural land that is currently enrolled within Millbury's Chapter 61 program.

<i>Site Name</i>	<i>Owner</i>	<i>Area*</i>	<i>Primary Purpose/ Open Space Potential</i>	<i>Zoning</i>	<i>Public Access/ Land Uses</i>
Backstrad Road Ch. 61A Map 75/ 9	Private	94.50	Agriculture	S-I	Cropland
Carleton Road Ch. 61A Map 67/ 12	Private	6.07	Agriculture	S-I	Cropland
Carleton Road Ch. 61A Map 67/ 13	Private	3.90	Forest	S-I	Forest
6 Davis Road Ch. 61A Map 89/4	Private	16.53	Forest	S-I	Forest
6 Davis Road Ch. 61A Map 89/43	Private	10.10	Forest	S-I	Forest
Dolan Road Ch. 61A Map 90/2	Private	57.00	Forest	S-I	Forest
Dolan Road Ch. 61A Map 94/59	Private	9.49	Forest	S-I	Trees
Federal Hill Rd. Ch. 61A Map 92/2	Private	8.00	Forest	S-I	trees & brush
Fjellman Road Ch. 61A Map 76/5	Private	68.20	Agriculture	S-I	trees & crops



<i>Site Name</i>	<i>Owner</i>	<i>Area*</i>	<i>Primary Purpose/ Open Space Potential</i>	<i>Zoning</i>	<i>Public Access/ Land Uses</i>
Gilbert Way Ch. 61A Map 82/2	Private	51.24	Agriculture	S-I	trees & crops
West Main St. Ch. 61A Map 76/19	Private	6.84	Agriculture	S-I	trees & crops
So. Oxford Rd. Ch. 61A Map 81/16	Private	10.00	Forest	S-I	trees
So. Oxford Rd. Ch. 61A Map 87/1	Private	15.00	Forest	S-I	trees
So. Oxford Rd. Ch. 61A Map 88/20	Private	52.00	Forest	S-I	trees
So. Oxford Rd. Ch. 61A Map 88/56	Private	10.00	Agriculture	S-I	crops
So. Oxford Rd. Ch. 61A Map 92/ 4	Private	15.00	Forest	S-I	trees
So. Oxford Rd. Ch. 61A Map 83/2	Private	16.24	Agriculture	S-I	crops & trees
So. Oxford Rd. Ch. 61A Map 88/38	Private	7.46	Forest	S-I	trees & stream
Stowe Road Ch. 61A Map 58/3	Private	10.05	Forest	S-I	trees
Stowe Road Ch. 61A Map 58/ 4	Private	12.00	Agriculture	S-I	residence
Tainter Hill Rd. Ch. 61A Map 43/15	Private	1.35	Vacant	R-II & S-I	some trees

<i>Site Name</i>	<i>Owner</i>	<i>Area*</i>	<i>Primary Purpose/ Open Space Potential</i>	<i>Zoning</i>	<i>Public Access/ Land Uses</i>
Tainter Hill Rd Ch. 61A. Map 43/16	Private	1.15	Vacant	R-II & S-I	some trees
West Main St. Ch. 61A Map 84/5	Private	45.00	Agriculture	S-I	trees & crops
342 W. Main St Ch. 61A Map 76/11	Private	32.00	Forest	S-I	trees, lake & stream

\* Areas from MassGIS. Areas within parenthesis from Assessors records.

*Inholdings*

Several small parcels have been identified as inholdings – unprotected parcels whose owner is generally unknown and that are surrounded on all sides by protected property, recreational facilities, or agricultural or forest land under Chapter 61. If no owner is identified, these parcels could be added to the town’s open space resources.

<i>Site Name</i>	<i>Owner</i>	<i>Area*</i>	<i>Primary Purpose/ Open Space Potential</i>	<i>Zoning</i>	<i>Public Access/ Land Uses</i>
Inholding 1/ Braney Road	unknown	1.3 acres	Forest High	S-III	No Forest
Inholding 2/ Stowe Road	unknown	1.5 acres	Forest Medium	S-I	No Forest, orchard
Inholding 3/ West Main St.	unknown	2.3 acres	Forest Medium	S-I	No Forest, residential

A few properties are of particular interest to local citizens for their recreation potential. These are:

**Blackstone River Bikeway:** The Blackstone River Bikeway is a proposed 48-mile bikeway that will connect Worcester, Massachusetts, to Providence, Rhode Island. In Massachusetts, the Bikeway will follow the Blackstone River through the communities of Worcester, Millbury, Sutton, Grafton, Northbridge, Uxbridge, Millville, and Blackstone. The Bikeway consists of both on- and off-road segments, and has been designated an official section of the East Coast Greenway, a 2,600-mile bikeway that extends from Maine to Florida. The only segment of the Massachusetts portion of the Bikeway that is fully constructed to date is located within the Route 146 Connector Project (Segment 6), a 2.5-mile segment linking the newly constructed Blackstone River Road bridge in Worcester to the parking lot at the Route

146/122A interchange in Millbury. Millbury citizens anxiously await completion of the design and construction of Segment 5. The Millbury portion of Segment 5 will link the terminus of the existing bikeway to Tri-Centennial Park in Sutton (See Appendix C for Millbury Blackstone River Bikeway Right of Way Acquisition Maps 1-3) although the exact location of the alignment is unknown at this point. It is likely that small shifts in the proposed alignment will occur to account for approved development projects, design, safety, and cost considerations. The Town of Millbury submitted an application for the funds necessary to secure the 3.3 mile right-of-way in Millbury under the FY06 Enhancement Program, but later withdrew its application when it became clear that MassHighway was going to secure the right-of-way. In 2005, the design of the 16-mile portion of Bikeway that extends from Millbury to Uxbridge (segments 3, 4, and 5) was authorized through a Five Year Federal Transportation Bill know as SAFETEA-LU. In 2007, MassHighway signed a contract with Parsons Transportation Group to design these segments. Although progress is being made and the project enjoys enthusiastic support at local, state and federal levels, its construction is not assured. The biggest obstacle appears to be financial, as approximately \$50 million is necessary to design and construct the Massachusetts portion of the Bikeway.



Blackstone River Bikeway, Worcester – Millbury

**Millbury Branch Rail Trail:** Creation of the Millbury Branch Rail Trail, which extends from Millbury Center to the Wyman-Gordon Company in North Grafton, was championed by the citizens of Millbury in the late 1990s and early 2000s. The 2-mile railroad right-of-way linking the Dorothy Pond Recreational Area, Deering Estate Wildlife Management Area and the Blackstone River Bikeway is currently owned by the Massachusetts Executive Office of Transportation (EOT). In 2002, the Town of Millbury commenced negotiations with the EOT to transfer ownership of the abandoned right-of-way (ROW) so that it can be used as a multi-purpose trail; however negotiations have been unsuccessful to date.

**Dorothy Pond Recreational Area:** Located on the west side of Riverlin Street, surrounding Little Dorothy Pond, the 21.6-acre parcel currently contains picnic tables and a trail. In 2002 the Town engaged Carr, Lynch and Sandell, Inc to prepare a plan and cost estimate for its future use, which included construction of an access driveway with drop off, parking area

for up to 40 cars including handicap spaces, restroom facilities, a beach area, timber fishing pier, canoe launch, open area able to be flooded for winter ice skating, accessible pathway system, and trail system through the woods that would link to the proposed Millbury Branch Rail Trail. Dorothy Pond was identified as a Priority Heritage Landscape by residents during an information meeting held in March 2007. As such, a site visit and planning assessment was conducted of the property and specific recommendations were included in the “Millbury Reconnaissance Report”, a document funded by the Massachusetts Heritage Landscape Inventory Program in association with the John H. Chaffee Blackstone River Valley National Heritage Corridor and the Quinebaug and Shetucket Rivers Valley National Heritage Corridor. As mentioned previously, questionable water quality results have stalled efforts to construct the beach to date.



Millbury Branch Railroad ROW, Dorothy Pond Recreation Area

**Blackstone Canal:** Constructed between 1824 and 1828, the Blackstone Canal extended from Worcester, Massachusetts to Providence, Rhode Island. Construction of the railroad in 1847 rendered the canal largely superfluous as a transportation route. In 2003, the Canal was included on the list of the Ten Most Endangered Historic Resources compiled by Preservation Massachusetts, the statewide nonprofit organization dedicated to preserving the Commonwealth’s historic and cultural resources. Under the sponsorship of the John H. Chaffee Blackstone River Valley National Heritage Corridor and the Worcester Historical Museum, Vanesse Hangen Brustlin, Inc. completed the “Blackstone Canal Preservation Study” in September 2005, which traces the layout of the Canal in eight Massachusetts communities and provides valuable recommendations for restoring, preserving and enhancing portions of the Canal. In Millbury, the Study states that the only visible section of the Blackstone Canal that remains is in the Cross Street-Grafton Street Area. This approximately one-mile long segment meanders through a largely undeveloped portion of

eastern Millbury. In addition to 1.6 miles of discernable Canal towpath, Millbury contains the remains of one lock structure (Lock #35) and a Canal mile marker (Mile Marker #37). The Study appears to overlook a 500-700 foot portion of the canal behind Windle Field and the Cordis Mill Pond where the towpath and some of the prism are still visible. If this is, in fact, a remnant of the canal then it is a historic resource worth protecting. The possibility exists to restore these sections and open them to the public for interpretation and recreation purposes.



Canal Remnants

**Butler Farm:** Located on the west side of Singletary Road, across from Lake Singletary, the 50.5-acre Butler Farm was purchased by the Town of Millbury in 2000 for \$300,000. The parcel contains a 1 ½ story Cape-style farmhouse which serves as an office for the town’s emergency management supervisor, a “repeater pole” which is instrumental for coordinating fire, police and ambulance emergency communication, the remnants of an orchard, and a community garden. The Boy Scouts laid out a trail system, used for hiking and cross-country skiing, and campsites in the woodland. The farmhouse, which is located on a hillside, affords a broad vista of the lake. The property includes a small waterfront parcel on the opposite side of Singletary Road; however access is limited by the steepness of the slope descending to the water’s edge and a roadside boulder barrier. The Town created a Butler Farm Committee to oversee work on the property and plan for its productive use by the Town. The Committee engaged Carr, Lynch and Sandell, Inc to prepare a plan for its future use, which include an access driveway and parking area, accessible trail and pathway system, playing field and picnic areas, construction of an administration building, observation tower, pavilion and terrace. Future plans also include engaging school classes in a project to plant blueberries and sell them, carrying on a historic use of the property with a crop that would be well suited to the land. The Butler Farm was identified as a Priority Heritage Landscape by residents during an information meeting held in March 2007. As such, a site visit and planning assessment was conducted of the property and specific recommendations were included in the “Millbury Reconnaissance Report”, a document funded by the Massachusetts Heritage Landscape Inventory Program in association with the John H. Chaffee Blackstone River Valley National Heritage Corridor and the Quinebaug and Shetucket Rivers Valley National Heritage Corridor.



Butler Farm

## Section 6 – Community Goals

### Description of Process

In June 2006, the Millbury Open Space and Recreation Survey appeared with the tax bills of every Millbury residential property owner. The three-page, eleven-question survey was meant to elicit opinions from a large segment of the population about a range of recreation and conservation issues. Views were solicited about Millbury's recreation resources, as well as the preferred pattern of growth and importance of preserving the community's historic buildings, open spaces and natural resources. Questions ascertained resident perceptions of Millbury and information about the respondents themselves. Of the 4,712 surveys distributed, 656 responses were received and analyzed via computer. This represents a return rate of 13.92%. The final results appear in Appendix A.

The survey findings were instrumental in shaping Millbury's open space and recreation goals. In some cases, the results reinforced assumptions unveiled while completing the five previous sections of this Plan. In other cases, surprises were apparent. Two hundred and thirty surveys contained written comments in the open-ended answer portion of the survey. While some comments were brief expressions of thanks for taking the time out to ask citizen opinions about these issues, others wrote about life in Millbury and provided suggestions for improvement. The comments were diverse, interesting to read and often presented a clearer picture of what people think than statistics alone can convey. Several good suggestions were taken into account when devising the goals.

### Goals and Objectives

The very process of identifying open space areas that may be properly developed and those that should be kept natural or permanently open (with gradations in between) underscores the necessity of producing a strategy for balancing economic development, social and ecological needs. It is not solely a question of choosing between people and nature, rather it is a matter of determining the best location for each use (including open space) and preventing the premature and thoughtless destruction of key resources. The Town's extensive natural and open areas are essential elements in the economic, historic, social, and ecological fabric of Millbury. If adequately protected and thoughtfully managed, these areas can be enjoyed by future generations.

In the survey and in separate comments, Millbury residents clearly expressed their open space and recreation goals. These are to:

- *Protect open spaces for water supply, recreation, conservation, historic preservation, and agricultural purposes.*
- *Promote community actions that preserve open spaces, including town-sponsored land acquisition.*
- *Diversify and enhance existing recreational opportunities.*
- *Broaden public awareness of Millbury's natural and recreational resources.*

These goals are reflected in the Action Strategy, which appears in Section 9 of this Plan.

## Section 7 – Analysis of Needs

### Summary of Resource Protection Needs

An analysis of the results from the 2006 Open Space and Recreation Survey reveals that most of the respondents (a majority of whom are long-time residents, 79% have lived in Millbury for more than 10 years), indicated that it was important to preserve open spaces. Seventy-nine percent of respondents felt that it is important or very important to protect open spaces for water supply needs, and 77% supported protecting open spaces for recreation and conservation purposes. Responses also indicate broad agreement that it is important to protect buildings and sites of historic interest (75%) and open spaces for agricultural purposes (73%).

### *Streams, Ponds Wetlands, Aquifers*

Respondents felt that degradation of drinking water supplies (85%) and degradation of water bodies and wetlands (76%) are Millbury's most critical open space related problems. The Blackstone River, its tributary streams, the town's many ponds, their associated wetlands, and other isolated wetlands are major natural resources which contribute to the town's rural character, history, water supply, wildlife habitat, and recreational opportunities. Many of these resource areas, which are privately owned for the most part, are worthy of permanent protection.

The JHC Blackstone River Valley National Heritage Corridor has focused attention on the town's history, its connection to the rest of the Blackstone Valley and the value that connection has for 21<sup>st</sup> century tourism and other development. It has been a strong advocate for preservation and improvement of the river itself as well as its related resources. While the river still needs improvement, there has been significant progress over the past ten years toward making it a resource that is valued and valuable to Millbury.

Many ponds in Millbury have weed problems that are the result of sedimentation and nutrient loading from street runoff, failing septic systems, excessive applications of fertilizer to lawns, and other pollution sources. Given that weed control measures will never be effective as long as pollutants continue to reach surface waters, Millbury should draft a Watershed Management Plan as part of a long-term solution. The aim of this Plan should be to pinpoint the definitive causes of accelerated nutrient levels in Millbury ponds, and recommend strategies for



minimizing pollution inputs. Activities that the Town may wish to undertake in the interim to minimize nutrient inputs are cleaning roadways more frequently, properly maintaining catch basins and detention basins, limiting salt/sand applications to roadways, and launching a campaign that broadens public awareness of ways residents can help abate non-point source pollution within the watershed.

Many important wetland habitats, including potential vernal pools, lie within Millbury's borders. As articulated in Section 3, Millbury's wetlands are not protected sufficiently and therefore continue to be lost to illegal filling. Vernal pools, in particular, are not afforded protection under the Wetlands Protection Act unless they receive certification. A community effort to certify locations of vernal pools with the state Natural Heritage and Endangered Species Program (NHESP) can help ensure that these unique habitats are preserved.

Aquifer recharge areas replenish the groundwater that supplies residents with their drinking water. To safeguard existing well-fields, the Town should identify and acquire undeveloped recharge areas and/or expand the limits of the Town's Aquifer and Watershed Protection Overlay District so that it includes these areas.

*Wildlife Habitats,  
Forests and Farms*

The loss of plant and animal habitat and forests is viewed by survey respondents as a critical open space problem. Another important community concern is the preservation of farmlands, which add to the Town's economy and scenic character. The Town can assist private owners with stewardship of open lands that contribute to



rural character and wildlife habitat through education about sensitive landscape practices, and encouraging participation in Chapter 61 programs. The Town's right of first refusal can be helpful for preserving priority landscapes at risk for development. To use it effectively, the Town should adopt a policy and well-defined process for working with a Chapter 61 landowner who decides to divest the property. Appropriate landowners should also be encouraged to consider conservation restrictions or Agricultural Preservation Restrictions to preserve land in perpetuity.

*Corridors*

Millbury has a unique potential for linking its existing and future protected lands with corridors. The extensive amount of transmission line right of ways forms a linear network of land that is currently used by wildlife, both as a place to feed and rest and as a link to travel from

one open space to another. This network, along with protected corridors along the Blackstone River and its tributary streams, could also provide opportunities for developing trails that link these natural areas. Some of the land under power lines may also be appropriate for recreational uses, especially in the densely developed portion of East Millbury.

Other open space connections can be made with adjacent towns, effectively expanding the wildlife habitat values of both towns. For example, Grafton has large areas of land trust land along Cronin Brook that abut the Deering Wildlife Management Area, which straddles the Millbury/Grafton town boundary. The same can be said for Sutton, where Division of Fisheries and Wildlife lands abut Millbury, and Auburn, where town owned land touches the boundary between the two towns. There may be opportunities to increase these state-owned wildlife management areas through tax-title acquisition or state purchase.

In order to accomplish the variety of resource protection needs expressed above, as well as certain community needs, the Town may wish to encourage developers to use low impact development techniques. Low Impact Development (LID) is a combination of techniques designed to lesson human impact on the environment by preserving the natural systems and hydrologic functions of a site. When LID methods are applied, rainfall naturally infiltrates the ground and replenishes wetlands, streams and the groundwater that yields Millbury's drinking water supply. LID also reduces land clearing and grading costs, infrastructure costs and maintenance costs. A few examples of LID techniques are:

Millbury's Open Space Community Bylaw: clusters homes on small lots so as to preserve land with historical, scenic or environmental significance. By minimizing roadway width/length, the volume of stormwater runoff is reduced.

Grassed Swales: these low cost alternatives to curbs, gutters and pipes convey, treat and infiltrate storm water into the ground.

Rain Gardens: also known as bioretention cells, rain gardens are shallow topographic depressions in the landscape that use specialized vegetation and engineered soils to filter, store and slowly percolate storm water into the ground. These are often used on private residential lots in combination with grassed swales.

Green Roofs: also referred to as vegetated roof systems, roofs are planted with hardy, drought-resistant plants that filter and hold

stormwater. Green roofs also help insulate buildings from extreme temperatures.

Rain Barrels, Dry Wells and Cisterns: containers that capture roof runoff for future use primarily as landscape irrigation or to infiltrate storm water slowly into the ground.

Porous Pavers: surface paving designed to infiltrate rainwater into the ground at a slow rate.

Native Plants: by using native plants and grasses, one can lesson water consumption and fertilizer use.

## **Summary of Community Needs**

An analysis of survey results indicates support for the enhancement of Millbury's existing recreational opportunities. A municipal swimming pool/beach is the top priority, followed by additional conservation areas, multi-purpose trails, sidewalks, and a youth center. Only 93 respondents, or 14% of people who responded to this question, indicated that no new public recreation facilities are needed. Of the Town's recreational facilities, the school recreational facilities (including Windle Field), the Blackstone River Bikeway, local ponds, the Washington Street Playground, the Town Common, and East Millbury Park enjoy the most use by respondents. The percentage of respondents using each of these facilities at least 6 times a year are as follows: 42% use school recreation facilities; 38% use the Blackstone River Bikeway; 36% use local ponds (including boat ramps); 27% use the Washington Street Playground; 26% use the Town Common, and 23% use the East Millbury Park.

Residents identified a number of necessary public recreational programs. Additional concerts were the top priority, followed by youth programming/activities, community fairs, nature outings, drama clubs, and road races. Eighty-seven respondents or 14% of people who responded to this question indicated that no new public recreation programs are needed.

Respondents identified the publication of recreation opportunities as Millbury's top recreation-related strategy. They ranked improving the maintenance of existing recreational facilities as their second priority, followed by providing more recreational programs and improving parking facilities. One hundred forty-four respondents, or 22% of people who responded to this question, indicated that recreation opportunities are adequate and well known to residents.

Millbury demographic data indicate a concentration of seniors and families with young children. It also shows the population distribution in the town, with higher densities of people living in

downtown (Armory Village), Bramanville and East Millbury, and fewer people living in the more rural areas like West Millbury.

*Age-Related  
Needs*

As noted in Section 3, senior citizens and families with young children require recreation facilities near their neighborhoods for both active play and passive enjoyment. The inventory of existing open spaces shows few recreation facilities or mini parks in town (see section on Recreation Standards below).

*Density-Related  
Needs*

Also as noted in Section 3, the denser areas of East Millbury and the villages of Bramanville and Armory Village need more mini parks and playgrounds or totlots to provide for the active and passive recreation requirements of the concentration of people living in these areas.

*Other Community  
Needs*

The strong desire to protect the historic contrast between villages and forest-covered rolling hills or farmland is a community need that overlaps resource protection needs. This desire can be met by protecting key parcels both by acquisition and by working with private owners and developers to see that these needs are understood and appreciated. Formation of a local conservation land trust would be an appropriate vehicle for accomplishing these tasks. The town's Open Space Community Bylaw could help in protecting natural resources, while allowing needed development.

ADA survey findings (See Appendix D) and the recent high-profile efforts of the local mother of an 8-year-old handicapped child to raise the funds necessary to transform the Washington Street Playground (also known as Woolie World) into a handicap-accessible playground indicate that the community does not adequately address the recreation needs of handicapped residents. Although Millbury launched serious efforts to make the Town's public buildings handicap-accessible, many recreation facilities and conservation lands are largely out of reach to this special interest group. Now that public buildings are accessible, the Town should extend its commitment to accommodate the recreation needs of handicapped residents by making at least some of its facilities accessible.

*Recreation  
Standards*

As shown in Table 10, Millbury does not meet the minimum amount of total recreation acreage recommended by the National Recreation and Park Association. Table 11 describes those standards. Millbury does not meet the recommended acreage for "miniparks", specialized facilities in neighborhoods for tots or senior citizens, and some neighborhoods, especially in East Millbury, have much less acreage for neighborhood parks and playgrounds than recommended. On the

other hand, the western section of Millbury has more neighborhood parks and playgrounds than the minimum recommendations.

**Table 10:  
Millbury Recreational Facilities**

<b>Mini Parks</b>	<b>Millbury*</b>	<b>Recommended</b>
Common	.5 acres	
James Direnzo Playground	.4 acres	
Dorothy Manor School	.3 acres	
Total	1.2 acres	3 to 6 acres
<b>Neighborhood Parks</b>		
Washington Street Playground	4.6 acres	
East Millbury Park	1.8	
West Millbury Playground	13.4	
Windle Field	5.0	
Greenwood Street Playground	5.8	
Total	30.6 acres	12 to 24 acres
<b>Community Parks</b>		
Elmwood Street Field	38.4 acres	
Millbury Memorial High	30.8	
Total	69.2 acres	61 to 98 acres
Total	101.0 acres	76 to 128 acres
Total Population	12,784	
Acres per 1000 population	12.8 acres	6.25 to 10.5 acres

\* Acreage from Assessor's Database

**Table 11:  
Recreation and Open Space Standards Suggested by the  
National Recreation and Park Association**

Total local or close-to-home space = 6.25 to 10.5 acres per 1000 population

<b>Component</b>	<b>Use</b>	<b>Desirable Size</b>	<b>Acres per 1000 population</b>	<b>Desirable Site Characteristics</b>
Minipark	Specialized facilities that serve a concentrated or limited population or specific group such as tots or senior citizens	1 acre or less	0.25 to 0.5	Within neighborhoods and close to apartment complexes, town-house development, or housing for the elderly
Neighborhood park/ playground	Area for intense recreational activities such as field games, crafts, skating, and picnicking; also for wading pool and playground apparatus areas	5 to 15 acres	1.0 to 2.0	Suited for intense development; easily accessible to neighborhood population; geographically centered with safe walking and bike access; may be developed as a school-park facility
Community park	Area of diverse environmental quality; may include areas	25+ acres	5.0 to 8.0	May include natural features such as water bodies, and areas

suited for intense recreational facilities, such as athletic complexes, large swimming pools; may be an area of natural quality for outdoor recreation such as walking, viewing, sitting, picnicking; may be any combination of the above, depending upon site suitability and community need

suited for intense development; easily accessible to neighborhood served.

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*Specific Recreation Needs*

No public swimming area exists. Two potential sites have been identified, one on Dorothy Pond and another on Brierly Pond. Survey respondents identified construction of a public swimming beach as the top recreation priority.

Although its construction was not identified as a top recreation priority by respondents to the Open Space and Recreation Survey, a group of residents and members of the Millbury Federated Church are trying to drum up the support necessary to construct a skateboard park in Millbury. The Pastor of the Millbury Federated Church spearheaded the effort by meeting with the Town Planner in December 2007 to discuss funding possibilities as well as potential sites for the park. The Pastor followed up this meeting with an information meeting held on January 2, 2008 with local skaters, parents and interested citizens. A former member of the Oxford Board of Selectmen who successfully implemented a skateboard park in her community provided guidance to attendees. Since January, interested residents have continued to meet at the Church on a monthly basis to discuss the skateboard park. Talks are underway with the School Committee about the possibility of siting the facility at Windle Field or McGrath School and the youth launched fundraising efforts by selling candy bars. First steps necessary to get the skateboard park underway are to continue to drum up local support, finalize a location for the skateboard park, and obtain the funding necessary to construct the facility.

An abandoned railroad right-of-way running from downtown Millbury to Route 122 near the MassPike at Exit 11 offers the opportunity to make an exciting connection between bike trails being developed by the City of Worcester, a proposed swimming area on Dorothy Pond, downtown Millbury, and the Blackstone River Bikeway.

The town's major recreation facility, Windle Field was acquired by the Town of Millbury in April 2006. It is being managed by the School

Department. The site is well suited as a recreation complex and a master plan for the facility was recently completed by Carolyn Cooney & Associates, a landscape architecture and planning firm located in Milford, Massachusetts, and JJA Sports, a consulting firm specializing in the planning, design, permitting, and construction of sports and recreation facilities that is located in Westford, Massachusetts. The preferred plan for the site features two sports fields, a playground, five tennis courts, a basketball court, building containing restrooms, concessions, and storage space, a picnic area, and parking area for 107 vehicles. The proposed facility would be constructed in three phases for a total cost of approximately \$3.3 million.

**Summary of  
Management  
Needs**

Many of the town's public recreation facilities are in good condition, but several also show signs of age, neglect, or misuse. The majority of the recreation facilities are managed by the Parks Commission and some by the School Department. The conservation areas are managed by the Conservation Commission and the Massachusetts Department of Conservation and Recreation (DCR). Compared to other similar Massachusetts towns, the staffing and funding of the Parks Commission and Conservation Commission are inadequate to provide appropriate planning, management, maintenance and development. The Conservation Commission, for example, is only staffed by a single, part-time secretary whose hours are consumed by the required administrative tasks. The Commission therefore relies on the voluntary initiative and actions of civic groups and individuals for any actual maintenance or development work on the properties for which they are responsible. The Parks Commission, which is comprised of volunteers, uses the services of the Department of Public Works to maintain recreation facilities under its jurisdiction, but is limited in its ability to plan and manage any improvements and acquisitions.

Millbury properties owned and managed by DCR have received little oversight, likely due to staffing and fiscal constraints. Since the Massachusetts Division of Fisheries and Wildlife took ownership of the 182-acre Deering property in 1997, establishing the George and Martha Deering Wildlife Management Area, the property has been the target of vandals and became a popular party location. It is suspected that arson is to blame for the destruction of its three historic buildings in 2000, 2002 and 2006. The last fire occurred in February 2006, when the barn was burned to the



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ground, yet little effort has been made to clean up the remnants of these structures.

There are many municipal priorities, but limited financial resources to address needs. In the years since Proposition 2<sup>1/2</sup> placed a cap on municipal spending, major constraints on expenditures for recreation and conservation have been noted in Millbury, as in many other communities. In order to acquire open spaces and enhance recreation facilities, new funding sources are essential. The Town may wish to consider assigning personnel to seek grants to implement open space and recreation priorities. A variety of grants (See Appendix E) are available to communities displaying strong public support and a significant need for a particular project. The creation of this Update entitles the Town to apply for them. Also, the Town can appeal to local businesses, church groups and civic organizations, which are often willing to devote money, time and expertise, when trying to accomplish community projects. Using municipal funds as well as private contributions and volunteer labor, the Town of Millbury completed a major renovation of the Town Common in 2002 that included the installation of attractive period lighting, brick pavers, benches, trash barrels, and new landscaping. Communities around Massachusetts have successfully employed volunteer effort to create and maintain neighborhood parks and gardens, construct trails, renovate playgrounds, pick up litter, etc... Millbury should continue to tap into this valuable resource.

Fifty-seven percent of survey respondents expressed a willingness to vote for town sponsored land acquisition, however most are personally unwilling to do anything to ensure that open space is preserved. Most do not want to sell land to the Town at a "bargain price" (83%), pay for it through an increase in property taxes (73%), or donate it to the Town or a conservation organization (72%). This may indicate that if the Town is able to obtain the money necessary to purchase land through grants or means that do not impact the tax rate, residents may be willing to support open space acquisition via Town Meeting vote. However, given the high level of competition for grants, the Town may also wish to launch a public education campaign so that residents fully understand the direct connection between the tax rate and town sponsored land acquisition. On the flip side, although far from a majority of respondents, some people expressed a willingness to preserve open spaces by restricting their deed to limit future use of their land, donate land to the Town or a conservation agency or sell land to the Town at a "bargain price". If any of these people are large landowners, then education about the

process and many benefits (financial as well as environmental, historic and economic) of preserving property for open space purposes may ultimately yield some protected parcels.

As in many towns, Millbury contains numerous volunteer boards and committees who work independently on a challenging array of community issues. There is an ongoing need to improve communications, build partnerships and unify visions among Town boards and committees. Since plans are often “shelved” if those charged with actions feel no clear obligation to do them, Millbury will likely enjoy more success if efforts are coordinated and an implementation party is designated.

One specific need is a guide to the town’s open space facilities that would include location and site maps and information on each site’s history and natural history. Such a guide would encourage use and help develop support for protection of more land. It is hard to expect people to support land protection efforts if they can not enjoy the land that has already been protected.

## Section 8 – Goals and Objectives

The purpose of the 2008 Open Space and Recreation Plan Update is to examine the various factors affecting open spaces in Millbury and devise a strategy to effectively meet current and future needs. A two-step process culminated in a list of goals and objectives. First, the first seven sections of the plan were carefully examined. To ensure that the goals and objectives reflect the public's perception of natural resource, open space and recreation needs and priorities, special attention was paid to the survey results. Second, the goals and objectives from the 1998 Open Space and Recreation Plan were examined to ascertain those that have been met, those that are not yet met, and those that are no longer relevant and therefore can be discarded. Narrative about the status of these goals and objectives is articulated in Section 2 of this Plan. The Open Space Committee agreed on the following goals and objectives:

### **Goal 1: Preserve and enhance Millbury's historic character.**

- Produce an update of the 1998 Master Plan, which will guide the future development of Millbury.
- Use innovative growth management strategies to accomplish desired goals.
- Acquire specific, critically located and highly visible parcels in Millbury.
- Preserve historic and scenic resources.

### **Goal 2: Work proactively to enhance, preserve and promote Millbury's unique features.**

- Protect and provide public access to priority parcels through gift or purchase of land and conservation easements.
- Broaden public awareness of the value and uniqueness of Millbury's natural resources.

### **Goal 3: Enhance the number, variety and maintenance of the Town's recreational facilities and programs.**

- Promote neighborhood-based recreation areas and facilities.
- Make recreation facilities and programs more accessible to the public.
- Link scattered conservation and recreation areas through the establishment of a greenway network.

### **Goal 4: Manage water resources to ensure good water quality for public consumption, wildlife and recreation.**

- Improve the quality of Millbury's lakes, ponds, rivers and streams.
- Protect, maintain and, where necessary, improve the quality of Millbury's wetlands.
- Ensure adequate quality and quantity of water resources for public consumption.

**Goal 5: Promote community participation in conservation and recreation projects.**

- Increase public awareness of open space and resource protection issues.
- Enhance communication with local, regional, state and federal agencies.
- Encourage partnerships with community groups with regards to Town resource management.

**Goal 6: Develop financial plan to acquire and maintain conservation lands and recreation facilities.**

## Section 9 – Five Year Action Plan

The Five Year Action Plan is designed to implement Millbury's Open Space and Recreation Plan. The Action Plan is based on the goals and objectives summarized in Section 8, which in turn were developed to respond to community input and address the recreation and conservation deficiencies identified in the analysis of community needs. The Action Plan identifies actions for accomplishing objectives, designates the organizations, town employees, town boards, commissions and committees responsible for implementing those actions, and specifies the recommended year for accomplishing those actions.

The timetable is not meant to be a rigid scheme but merely a flexible guide for directing the energy necessary to protect critical natural and cultural resources, enhance recreation opportunities and preserve the character of the community. Previously unforeseen opportunities that would further the Town's open space and recreation objectives may require rapid action by the Town. Likewise, unforeseen obstacles may impede the Town's ability to accomplish tasks. Consequently, the implementation schedule is subject to revision and should be reviewed annually and modified as needed to respond to special opportunities and unforeseen obstacles. For convenience sake, the Plan appears in two easy-to-read formats. First, the Plan is arranged by goal-objective-action; second, the Plan appears as a worksheet aggregated by year (See Appendix H for Five Year Action Plan worksheet).

### **Goal 1: Preserve and enhance Millbury's historic character.**

*Objective 1a: Produce an update of the 1998 Master Plan, which will guide the future development of Millbury.*

- In anticipation of producing a comprehensive update of the 1998 Master Plan, prepare a status report of the 1998 Master Plan Implementation Plan. (*Town Planner – Year 1*)
- Raise or appropriate the funds necessary to prepare a comprehensive update of the 1998 Master Plan. (*Town Planner, Planning Board – Year 1*)
- Select a consultant to coordinate the Master Planning process. (*Planning Board – Year 1*)
- Elicit in-kind services (either money or volunteer time) from local businesses to engender buy-in for the Master Plan. (*Millbury Improvement Initiative – Year 1*)
- Update the 2000 EOEa buildout analysis so that it reflects a more accurate picture of Millbury's ultimate development potential given existing regulations, infrastructure and development trends. (*Town Planner, Planning Consultant – Year 2*)
- Launch a visioning process to help residents and local businesses choose an appropriate vision for the town, or confirm that the vision articulated in the 1998 Master Plan is still desired. (*Town Planner, Planning Consultant – Year 1*)

- Amend zoning bylaws and adopt regulations that comply with Master Plan recommendations. (*Town Planner, Designated Department, Board or Commission – Years 4 & 5*)
- Implement non-regulatory recommendations. (*Designated Department, Board, Commission, or Committee – Years 4 & 5*)

*Objective 1b: Use innovative growth management strategies to accomplish desired goals.*

- Promote creation of Open Space Communities (See page 7 for additional information) as a means of protecting cherished natural, scenic and historic resources as well as increase the supply of recreation facilities and valuable conservation land. The Town should emphasize the following when negotiating with applicants during the pre-application stage:
  - Find “win/win” solutions for both the Town and owner.
  - Encourage linkage and open space corridors as site plans are prepared for Open Space Communities. (*Town Planner, Planning Board – Ongoing*)
- Encourage the use of low impact development measures (See page 75 for additional information) as a way to conserve the natural systems and hydrologic functions of a site while minimizing infrastructure costs. (*Town Planner, Planning Board – Ongoing*)
- Promote the redevelopment of brownfield properties through use of the Adaptive Reuse Overlay Bylaw. (*Town Planner, Planning Board – Ongoing*)

*Objective 1c: Acquire specific, critically located, and highly visible parcels in Millbury.*

- Prioritize preservation of the 180± acre area including Mount Ararat and the abandoned portion of the Old Common Road. Mount Ararat is visible from many areas in town and offers the hiker spectacular views. The contiguous stonewall, lined Old Common Road has important scenic and historic values. The proximity of this area to Bramanville will help preserve the contrast between Millbury’s villages and its forest covered hills. Also prioritize unprotected parcels in East Millbury that link Conservation Commission land off of Colton Road to permanently protected open space in Grafton. (*Town of Millbury, Local Land Trust – Ongoing*)
- Encourage continued enrollment in the Agricultural Preservation Restriction (APR) Program managed by the Massachusetts Department of Food and Agriculture. (*Open Space Committee, Local Land Trust – Ongoing*)
- Encourage continued participation and enrollment in farmland and forestry tax reduction programs under MGL Chapter 61 for agricultural, forest and private recreational land. (*Assessor’s Office, Open Space Committee, Local Land Trust – Ongoing*)
- Define policy and process for working with landowners when the Town has the right of first refusal on Chapter 61 lands. (*Open Space Committee – Year 1*)

*Objective 1d: Preserve historic and scenic resources.*

- Enforce the Scenic Road Bylaw. (*Planning Board – Ongoing*)
- Designate additional scenic roads in Millbury. (*Town Planner, Planning Board, Historic Commission, Conservation Commission – Ongoing*)
- Consider adopting a Bylaw that protects historic stone walls, including on private property. (*Historic Commission – Year 4*)
- Ensure preservation of and access to canal remnants, particularly if properties containing same submit development proposals for review and approval. (*Town Planner, Planning Board – Ongoing*)
- Work with the State to preserve historic artifacts remaining at the Deering Wildlife Management Area. (*Historic Society – Year 1*)
- Apply for state and federal grants to help property owners maintain historic buildings. (*Town Planner, Historic Commission – Ongoing*)
- Nominate historic properties for National Register of Historic Places designation. Inform property owners that historic rehabilitation tax credits can be available to National Register-listed properties. (*Historic Commission – Ongoing*)
- Consider designating Millbury's historic areas as Local Historic Districts. (*Historic Commission, Town Planner – Ongoing*)

**Goal 2: Work proactively to enhance, preserve and promote Millbury's unique features.**

*Objective 2a: Protect and provide public access to priority parcels through gift or purchase of land and conservation easements.*

- Create a methodology for rating existing or potential conservation land. (*Open Space Committee – Year 2*)
- Assess municipal properties for ecological, scenic or cultural significance. (*Open Space Committee – Year 3*)
- Apply conservation easements to municipal properties deemed to have ecological, scenic or cultural significance. (*Board of Selectmen – Year 4*)
- Ensure that ecologically important municipal properties are managed appropriately. (*Conservation Commission, Open Space Committee – Ongoing*)
- Work with state/federal and conservation agencies to coordinate the resources necessary to protect significant private properties. (*Town Planner, Open Space Committee, Local Land Trust – Ongoing*)

*Objective 2b: Broaden public awareness of the value and uniqueness of Millbury's natural resources.*

- Hold an annual environmental festival or biodiversity day(s) to educate residents of all ages about the value of the natural environment through hands-on activities. (*Open Space Committee, Millbury Improvement Initiative, Environmental Club at Millbury High School – Year 3*)
- Establish a self-learning nature trail through the Davidson Sanctuary that fosters an understanding of and appreciation for the wildlife and plants that dwell there. (*Conservation Commission – Year 2*)
- Incorporate the outdoor classroom concept into the public school science curriculum. (*Millbury Superintendent's Office – Year 3*)

**Goal 3: Enhance the number, variety and maintenance of the Town's recreational facilities and programs.**

*Objective 3a: Promote neighborhood-based recreation areas and facilities.*

- Encourage recreation-based businesses to locate in Millbury. (*Town Planner, Ongoing*).
- Research options for acquiring and improving recreation areas. (*Parks Commission, Board of Selectmen – Year 1*)
- Fundraise, solicit monetary and in-kind services from local businesses and residents, and pursue grants so that the Master Plan for Windle Field is implemented. (*Millbury School Committee, Windle Field Committee, Millbury Improvement Initiative – Ongoing*)
- Construct a local beach and parking area on town-owned property. (*Parks Commission, Ponds and Lakes Committee, Open Space Committee – Year 3*)
- Identify the appropriate location for and construct a skateboard park. Possible locations for the park include Windle Field in the Town Center, West Millbury Playground in West Millbury and Dorenzo's Playground in East Millbury. (*Parks Commission, Department of Public Works – Year 2*)
- Install picnic tables in appropriate locations. (*Parks Commission, Conservation Commission – Ongoing*)
- Encourage the State to clean up and make safe the remnants of buildings within the Deering Wildlife Management Area. (*Board of Selectmen – Year 1*)
- Expand recreational programming by providing year-round activities for youth and adults. (*Parks Commission, Millbury Improvement Initiative – Ongoing*)
- Continue existing recreation programming, including the summer concert series, carnival and car show. (*Millbury Improvement Initiative, Millbury Senior Center, Lions Club – Ongoing*)

*Objective 3b: Make recreation facilities and programs more accessible to the public.*

- Make neighborhoods, especially in densely developed areas, more pedestrian-friendly through the construction of sidewalks. (*Department of Public Works, Planning Board – Ongoing*)
- Develop "mini parks," small areas with facilities especially for youngsters and elderly residents, in the denser neighborhoods and villages. Some of these mini parks could be developed in conjunction with existing neighborhood parks and playgrounds. (*Parks Commission – Ongoing*)
- Continue to upgrade recreation facilities at neighborhood parks and playgrounds. (*Parks Commission, Department of Public Works - Ongoing*)
- Meet Americans with Disabilities Act (ADA) accessibility requirements for Town recreation and athletic facilities. Butler Farm, Washington Street Playground and Greenwood Street Park should be prioritized. (*Parks Commission, Conservation Commission, Butler Farm Committee, Disabilities Commission – Ongoing*)
- Develop maintenance/improvement plans for all town recreation facilities to assure their safety and attractiveness. (*Parks Commission, Conservation Commission – Year 2*)
- Improve access to and awareness of the town's open spaces by providing small parking areas, signs, and trails in appropriate areas. (*Parks Commission, Conservation Commission, Open Space Committee – Ongoing*)
- Develop a guidebook and/or map of the town's open spaces to broaden awareness of local recreation resources open to the public. Millbury has some wonderful natural and historic areas that are unknown to many residents. Graphic signs, brochures, and maps can help make these areas more appreciated and encourage appropriate use. (*Town Planner, Parks Commission, Conservation Commission, Open Space Committee – Year 1*)

*Objective 3c: Link scattered conservation and recreation areas through the establishment of a greenway network.*

- Improve hiking, biking, cross country skiing and work with municipal/regional/state agencies on trail connections with other towns. (*Open Space Committee - Ongoing*)
- Work with neighboring communities and regional entities to establish a regional trail network that would ultimately link Millbury to recreational opportunities in Worcester, Auburn, Sutton and Grafton. (*Town Planner, Conservation Commission, Open Space Committee – Ongoing*)
- Enthusiastically support and implement efforts aimed at advancing the construction of the full extent of the Blackstone River Bikeway. (*Board of Selectmen, Town Planner – Ongoing*)
- Develop a multi-purpose trail on the abandoned railroad right-of-way between Millbury Center, Windle Field and the proposed Dorothy Pond beach. (*Town Planner, Open Space Committee – Year 2*)

- Approach National Grid about the possibility of creating a network of pathways along transmission line right-of-ways. (*Town Planner – Year 1*)
- Work with transmission right-of-way owners to provide public access for a network of pathways that link the town's open spaces and recreation areas. This network of pathways should connect to the planned Blackstone River bike path and the proposed multi-purpose pathway on the abandoned railroad right-of-way. (*Town Planner, Open Space Committee – Ongoing*)

**Goal 4: Manage water resources to ensure good water quality and quantity for public consumption, wildlife and recreation.**

*Objective 4a: Improve the quality of Millbury's lakes, ponds, rivers and streams.*

- Continue careful enforcement of the MA Rivers Protection Act and stormwater regulations. (*Conservation Commission, Planning Board, Ponds and Lakes Commission – Ongoing*)
- Prepare a watershed management plan aimed at identifying the definitive causes of accelerated nutrient levels in Millbury's ponds, and recommend strategies for minimizing pollution inputs. (*Town Planner, Conservation Commission, Ponds and Lakes Commission, Department of Public Works – Year 3*)
- Minimize the sedimentation and contamination of ponds and streams resulting from municipal activities by sweeping area roads more frequently, properly maintaining catch basins and detention basins and limiting salt/sand applications to roadways. (*Department of Public Works, Ponds and Lakes Commission - Ongoing*)
- Distribute a packet of information to educate homeowners about measures that they can employ to prevent and/or remedy pollution originating from their properties. The Campaign for a Fishable/Swimmable Blackstone River by 2015 created a number of very informative, user-friendly fact sheets and pamphlets aimed at educating homeowners, small farm owners and horse owners about ways that they can ensure adequate water quality. (*Conservation Commission, Board of Health, Aquarion Water Company, Ponds and Lakes Commission – Year 1*)
- Encourage appropriate riverside development and recreational uses along the Blackstone River and its tributary streams. Such uses and development should be designed to accommodate periodic flooding in these areas rather than reduce the flood storage capacity of these low-lying areas. (*Conservation Commission, Planning Board, Town Planner – Ongoing*)
- Maintain or plant woody vegetation around ponds and along rivers as a means of reducing erosion, filtering polluted runoff, absorbing floodwaters, and slowing water velocity. (*Conservation Commission, Ponds and Lakes Commission - Ongoing*)
- Perform additional water quality testing of Dorothy Pond and Little Dorothy Pond and implement measures to improve the quality of these water bodies.

*(Board of Selectmen, Department of Public Works, Dorothy Pond Association, Ponds and Lakes Commission – Year 1)*

- Perform additional water quality testing of Brierly Pond to determine adequacy for Town Beach. Also, determine ownership and condition of the dam so as to ensure that the water level in the pond can be safely controlled. *(Board of Selectmen, Department of Public Works, Ponds and Lakes Commission – Year 1)*
- Maintain dams and correct deficiencies noted in the 2005 inspection reports. *(Department of Public Works, Ponds Associations – Ongoing)*

*Objective 4b: Protect, maintain and, where necessary, improve the quality of Millbury's wetlands.*

- Protect inland wetlands and wildlife habitats through the enforcement of the Wetlands Protection Act and floodplain regulations. *(Conservation Commission, Board of Appeals – Ongoing)*
- Encourage owners of wetlands, especially those adjacent to already protected areas and along the Blackstone River and its tributaries, to protect these valuable habitats through donation to the Conservation Commission, private land trusts, or through conservation restrictions that will reduce taxes and provide permanent protection. *(Local Land Trust, Conservation Commission, Planning Board, Town Planner – Ongoing)*
- Work with property owners, developers and engineers to ensure that development proposals will not endanger the health of wetlands. *(Conservation Commission – Ongoing)*
- Involve volunteers (including scouts and science classes) with identifying, mapping, and certifying Millbury's vernal pools. *(Conservation Commission, Millbury Superintendent's Office – Ongoing)*
- Consider adopting a local Wetlands Protection Bylaw. *(Conservation Commission, Town Planner – Year 4)*

*Objective 4c: Ensure adequate quality and quantity of water resources for public consumption.*

- Identify, acquire and protect aquifers and aquifer recharge areas. Develop regulations that protect the Dorothy Pond Aquifer and Blackstone River Aquifer while taking into account existing development pattern. *(Aquarion Water Company, Planning Board, Town Planner – Years 4 & 5)*
- Distribute a packet of "Best Management Practices" to homeowners and businesses located in Zone II areas so as to educate about ways that they can preserve the quality and quantity of groundwater supplies. *(Aquarion Water Company – Ongoing)*
- Create and maintain high visibility information display at the Municipal Office Building and Library about caring for private wells, septic systems and underground storage tanks. *(Board of Health – Ongoing)*
- Hold an annual collection day for household hazardous materials. Explore possibility of joining forces with another town to reduce costs. *(Department of Public Works – Ongoing)*

## **Goal 5: Promote community participation in conservation and recreation projects.**

*Objective 5a: Increase public awareness of open space and resource protection issues.*

- Ensure that all parties specified in the Plan, especially those charged with Action Plan implementation, receive a copy of the Plan and understand their responsibilities. *(Town Planner, Open Space Committee – Year 1)*
- Provide conservation and recreation-related information at the Library and Municipal Office Building. *(Town Planner, Parks Commission, Conservation Commission, Open Space Committee – Ongoing)*
- Work with the news media to publicize the Open Space and Recreation Plan Update, as well as other conservation and recreation matters. *(Town Planner, Open Space Committee – Year 1)*
- Revise and update the Action Strategy annually so that it reflects Millbury's changing needs and accomplishments. *(Town Planner, Open Space Committee – Ongoing)*

*Objective 5b: Enhance communication with local, regional, state and federal agencies.*

- Carry out proposed actions and schedule an annual meeting with all responsible parties listed in the Action Strategy to gage their progress and ascertain plans for accomplishing actions. *(Town Planner, Open Space Committee – Ongoing)*
- Begin the planning process to update the Open Space and Recreation Plan. *(Town Planner, Open Space Committee – Year 5)*

*Objective 5c: Encourage partnerships with regards to Town resource management.*

- Encourage community groups to help maintain Town recreation and conservation areas. *(Parks Commission, Conservation Commission – Ongoing)*
- Help local ponds associations obtain assistance from the state Lakes and Ponds Programs. *(Town Planner, Ponds and Lakes Commission, Open Space Committee – Ongoing)*

## **Goal 6: Develop financial plan to acquire and maintain conservation lands and recreation facilities.**

- Research options for raising the funds necessary to acquire, maintain and improve conservation and recreation areas. *(Open Space Committee – Year 1)*
- Consider establishing a local conservation land trust to purchase priority open spaces and accept donations of land. *(Interested Residents – Year 2)*
- Encourage the Millbury Improvement Initiative to fundraise and accept private donations to finance open space, recreation, and other community improvement projects. *(Open Space Committee – Ongoing)*
- Consider adopting the Community Preservation Act to finance land acquisition and historic preservation initiatives. *(Open Space Committee – Year 4)*

- Pursue grants to accomplish conservation and recreation goals. (*Town Planner, Millbury Improvement Initiative, Local Land Trust – Ongoing*)
- Solicit local residents, organizations and businesses for donations of land, money and services. (*Millbury Improvement Initiative, Local Land Trust - Ongoing*)
- Use attractive markers and signage to recognize people, organizations and businesses that donate land and finance recreation improvements. (*Parks Commission, Conservation Commission – Ongoing*)
- Seek assistance from state and federal agencies to prepare management plans for municipal lands. (*Parks Commission, Conservation Commission, Open Space Committee, Town Planner – Year 2*)
- Consider designating funds from the sale of tax-title land to acquire and maintain conservation and recreation areas. (*Board of Selectmen, Open Space Committee – Year 1*)

The Action Plan Map on the following page provides an illustration of the network or web of open space and recreation facilities envisioned for Millbury. The basic principle of completing the network is to obtain linear parcels or easements that connect existing open space and recreation facilities and activity centers such as Millbury Center and East Millbury.

## Action Plan Map

## **Section 10 - Public Comments**

The following letters were received in response to review of the first draft of this Open Space and Recreation Plan Update. Copies of the letters are included in Appendix F:

## Section 11 - References

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Vanasse Hangen Brustlin, Inc., Blackstone Canal Preservation Study, 2005.

Vanasse Hangen Brustlin, Inc., Blackstone River Bikeway Expanded Environmental Notification Form, 2005.