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Sustainable Environmental Solutions

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Open Space and Recreation Plan

Burlington, Massachusetts

June 27, 2019



Prepared for:
Town of Burlington
Open Space and Recreation Plan Subcommittee
26 Center Street
Burlington, MA 01803

Prepared by:
Horsley Witten Group, Inc.



Burlington Open Space and Recreation Plan

June 27, 2019



The Commonwealth of Massachusetts
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July 3, 2019

Krista Moravec
Horsley Witten Group
55 Dorrance Street – Suite 200
Providence, RI 02903

Re: Open Space and Recreation Plan

Dear Ms. Moravec:

Thank you for submitting Burlington's Open Space and Recreation Plan to this office for review for compliance with the current Open Space and Recreation Plan Requirements. I am pleased to write that the plan is approved. This final approval will allow Burlington to participate in DCS grant rounds through February 2026.

Congratulations on a great job. Please call me at (617) 626-1171 if you have any questions or concerns about the plan.

Sincerely,

A handwritten signature in cursive script that reads "Melissa Cryan".

Melissa Cryan
Grant Programs Supervisor

cc: John Keeley, Conservation Commission

Burlington Open Space and Recreation Plan Subcommittee

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Eileen Coleman	Assistant Conservation Administrator
Brendan Egan	Parks and Recreation Director
Kelly Lehman	Parks and Recreation Program Coordinator
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1 Plan Summary

Since the latter half of the twentieth century, urban sprawl and development booms have altered the landscape of Massachusetts towns dramatically. As more development occurs, government and individuals are realizing that open space is a finite resource. Often recognized only for scenic qualities and contribution to the character of a town, open space is now seen as valuable for a variety of reasons influencing the health and well-being of area residents such as natural resource conservation, availability of passive and active recreation opportunities, and for agricultural purposes. Proper management of such space is imperative to achieving and maintaining sustainable and healthy communities.

The 2019 Open Space and Recreation Plan (OSRP) for the Town of Burlington has been prepared in order to provide goals and guidance for land use management and acquisition over the next seven years. Since Burlington is a developed suburb, quickly approaching both residential and commercial build-out, protection of what unprotected, undeveloped parcels remain is of utmost importance.

The two largest undeveloped properties in Town, Landlocked Forest and Mary P.C. Cummings Estate (aka Mary Cummings Park), while protected under Article 97, are in a very desirable area and are periodically examined for potential development. Their incomparable value as open space must be communicated and understood to ensure their continued existence.

Other issues that are most important to the Town, and discussed throughout this report, include:

- Providing additional athletic fields for high school sports, youth sports, and adult athletic programs
- Providing passive recreation areas for an aging population
- Protecting Burlington's water resources
- Actively managing, maintaining, and striving to expand existing conservation and recreation areas
- Increasing public awareness and use of Conservation and Recreation resources

2 Introduction

2.1 Statement of Purpose

The primary purpose of the Burlington OSRP is to aid the Town in open space planning. The 2018 Burlington OSRP has been written with extensive input from town residents and municipal departments, allowing the Town to understand and incorporate, wherever possible, community preferences in open space planning and management through 2025. By truly understanding the wishes of the residents and the needs of the community, the Town is better equipped to make decisions regarding open space acquisition and management while ensuring natural resource protection.

As Burlington has seen extensive growth and now faces build-out, protecting the remaining open space in town has become increasingly important. An OSRP with an accurate inventory of existing open space and a detailed management plan will ensure the most benefit to the community. Inclusion of anticipated future needs will help the Town to proactively manage for continued use and enjoyment of open space while encouraging sustainable development and redevelopment in town. As an added benefit, an up-to-date plan will qualify the Town for state reimbursement programs for open space acquisition and protection and programs for recreation land acquisition and development. The completion of this report plays a role in qualifying for grant opportunities, such as the Local Acquisitions for Natural Diversity (LAND) Grants and Parkland Acquisitions and Renovations for Communities (PARC) Grants.

Burlington has been successful at achieving several of its goals from the 2011 OSRP. Below are just a few more of the open space projects completed from the 2011 OSRP:

- Improvements were made at the Town Common, including updating the electrical service and increasing accessibility for those with disabilities, such as changes to the path down to the inner circle and new handicapped parking.
- The Conservation Department has continued to work with Boy Scouts, Eagle Scouts, and the Burlington Conservation Stewards on trail enhancement, clean-up, bird and bat house construction, and other management and maintenance activities for the town's conservation areas.
- The Parks and Recreation Department works with the Beautification Committee, Parent Teacher Organizations (PTOs), youth sports organizations, and others to clean up and beautify the Town Common, public school facilities, and other town properties.
- Since the 2011 OSRP, the Disability Access Commission has become more active and partners with the Parks and Recreation and Conservation Departments to improve access to resources and facilities.
- In 2017, the Parks and Recreation Department completed a needs assessment of recreational programming and facilities.
- At Regan Park, the Town replaced playground equipment and repaved the basketball court. Drainage issues were also addressed.
- The Town continues to utilize Mary P.C. Cummings Estate, and since 2011, has constructed a youth soccer field, parking lot, and walking trail.

- The Town continues to find ways to increase public awareness of recreation and conservation resources, including redesigning department websites, developing trail maps and programming brochures, and coordinating activities at local sites.

2.2 Planning Process and Public Participation

The planning process allows a community to understand where it is at meeting local needs, where it wants to go in the future, and how it is going to get there. Meaningful public participation is critical to answering these questions.

The update process for the Burlington OSRP was led by an OSRP Subcommittee made up of town staff from the Conservation, Planning, and Parks and Recreation Departments as well as members of the Disability Access Commission, Planning Board, Conservation Commission, and Recreation Commission. In addition to guiding the drafting of the update, the Subcommittee, based on their representation, was able to also provide input into management.

To engage the public during the update process, the Subcommittee organized two larger public meetings and disseminated a public opinion survey. In 2017, additional public input occurred prior to the OSRP update process, when the Parks and Recreation Department undertook an extensive survey as part of a Parks and Recreation Needs Assessment.¹ Findings from the assessment have been incorporated into this OSRP.

2.2.1 Input on Community Needs

On September 25, 2018, the Town sponsored an evening public workshop at the Marshall Simonds Middle School Library. Approximately 20 residents and town staff participated. The workshop had two primary objectives: discuss with the community the importance of open space and recreational resources and understand any changes in the open space and recreational needs since the last OSRP was adopted. During the meeting, attendees talked about what the Town was doing well by way of protecting open space and providing recreational opportunities, what could be better or improved and what those improvements might be, what needs are not being met and new opportunities for the Town. Discussion followed about the challenges and opportunities in protecting natural resources and offering recreational programming and facilities, which helped raise awareness and understanding among the public and town staff.

Notification of the workshop to the public was done through a variety of sources:

- Local media with a press release
- Announcements on the Town's website newsfeed and Conservation Department page
- Conservation Commission social media
- School Administrator's weekly emails to parents
- Flyers at the Library, Town Hall and Annex

¹ <http://www.burlington.org/BPRD%20Needs%20Assessment.pdf>

A summary of the workshop is found in Appendix A.

2.2.2 Input on Goals, Objectives, and Action Plan

The Town also solicited public feedback on the OSRP draft goals, objectives, and seven-year action plan. This was done through an online survey, paper survey, and informational boards. Informational boards of the OSRP goals and objectives and a summary of open space and recreational needs were displayed at the Human Services/Parks and Recreation Department and Burlington Library with materials to provide written feedback (comment cards, pens, etc.). Both locations were optimal because they have high foot traffic with numerous events and programming, varying hours of operation, and the ability to capture diverse audiences.

As an alternative to providing written feedback, the display boards provided links to view material online on the Conservation Department's webpage as well as an email address to send comments electronically. Paper copies of the action plan survey were also available at these locations with the links to an online survey if respondents preferred that option. The online survey allowed respondents to focus on areas of interest, targeting specific goals and their associated actions.

To promote the need for input from the public, outreach was conducted as it was for the workshop, which included email announcements from those collected during the workshop and other outreach efforts.

The public could provide feedback between December 11, 2018 and January 11, 2019. The Town received 108 responses to the action plan online survey and seven written comment cards. All feedback received is compiled in Appendix A.

2.2.3 Community Survey

A community survey was distributed both electronically and in hardcopy. The purpose of the survey was to understand community needs for and opinions on open space and recreation resources. Because the Parks and Recreation Department had recently undertaken an extensive survey for its Needs Assessment in 2017 (see Section 2.2.3), this survey focused on conservation and open space resources and was designed in a similar, more in-depth manner as the Parks and Recreation Department 2017 survey.

The community survey was available online from August 21 to September 21, 2018, as well as paper copies at the Burlington Public Library, Town Hall and Annex, and Human Services/Parks and Recreation Department Office. A total of 133 responded to the survey and a summary is found in Appendix A.

2.2.4 Parks and Recreation Needs Assessment Survey

Conducted in 2017, the town-wide survey administered through the Parks and Recreation Department as part of its Needs Assessment² provides additional information on recreation facility and programming

² <http://www.burlington.org/BPRD%20Needs%20Assessment.pdf>

needs. Of the 486 surveys returned, 276 respondents completed the survey. The following list highlights key findings from the survey results:

- Recreation facilities that received the most use more than once a year were the Town Common, Burlington Recreation Center, Rahanis Playground, outdoor athletic facilities at Burlington High School, Simonds Park, and Mill Pond Reservoir.
- Primary reasons for not using Burlington facilities were lack of time because of work obligations (59.3%), participated in other leisure activities (44%), needed facilities were not available (34%), better recreational opportunities were found elsewhere (29%), and facilities did not meet family needs (22%).
- Top needed indoor facilities were a swimming pool (74.4%), weight/fitness area (59.7%), teen/youth center (55.3%), multi-purpose gyms (44.1%), athletic courts (41.7%) and performing arts space (41.7%).
- Top needed outdoor park and trails facilities were bike paths/lanes (65.8%), non-motorized trails/greenways (62.8%), and undesignated green space for informal or drop-in recreation activities (42.6%).
- Top needed athletics/built recreation facilities were an outdoor swimming pool (64.5%) and outdoor ice skating rink (54.7%).
- Top recreational programming needs were aquatics or swim programs (64.7%), open gyms/drop-in sports (58.2%), nature or environmental education programs (49.3%), out-of-school activities for teens (47.1%), outdoor adventure activities (44%), and afterschool programs for elementary and middle school students (41.7%). Other program needs included non-sport youth activities (37.7%), summer day camps (33.7%), musical concerts and performances (33.1%), and sports instruction/lessons (33%).
- Top improvements identified were trails and greenways, indoor recreation facilities, and physical accessibility.
- Priorities for facilities, programs, and services were trails and greenways (24.5%), recreation programs and services (14.8%), and indoor recreation facilities (13.8%). Almost 15% provided “other” answers not listed in the survey, which are provided as an appendix to the Parks and Recreation Needs Assessment.
- About half of respondents indicated that the Town’s spending on parks and recreation resources was “just about right” (53.4%) and 40% felt it was too low.
- Most agreed or strongly agreed that “some portion of a resident’s property tax should be used to offset the costs to build and maintain park and recreation facilities in Burlington” (88.6%) and that “it’s a good idea for the town of Burlington to partner with other organizations and agencies to deliver park and recreation services” (76.6%).
- Most indicated that “some portion of a resident’s property tax should be used to pay to run recreation programs and activities” and reported that they “would be willing to pay a fee to participate in town-sponsored recreation programs and activities in Burlington” (75.2%).
- About half of survey respondents agreed or strongly agreed that they “would be willing to pay a fee for the use of town-owned recreation facilities in Burlington” (52.1%).

2.3 Enhanced Outreach and Public Participation

As described in more detail under Sections 3.3.1 Population and 4.7.7 Environmental Equity, there are two designated Environmental Justice (EJ) communities in Burlington. The Massachusetts Environmental Justice Policy defines EJ communities as “those segments of the population that the Massachusetts Executive Office of Environmental Affairs (EOEA) has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources. They are defined as neighborhoods (U.S. Census Bureau census block groups) that meet one or more of the following criteria:

- The median annual household income is at or below 65% of the statewide median income for Massachusetts; or
- 25% of the residents are minority; or
- 25% of the residents are foreign born; or
- 25% of the residents are lacking English language proficiency.”³

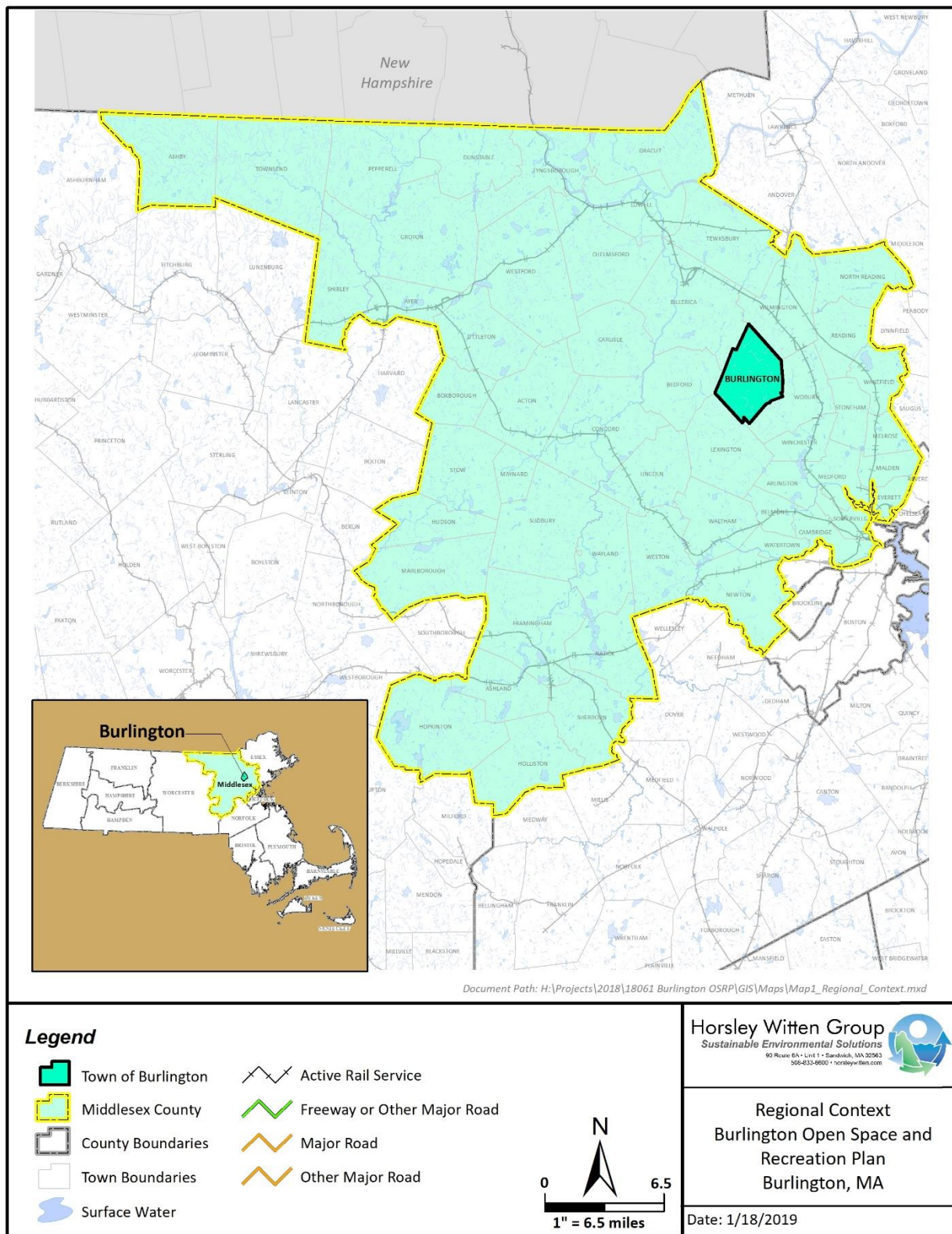
Approximately 15% of the population is Asian, a figure driven primarily by people from India. Two Burlington neighborhoods meet two EJ criteria: more than 25% of residents are minority and 25% are foreign born. To ensure that the OSRP represents the needs of these residents, the Indian Americans for Burlington (IAB) helped distribute information to the larger Indian American community about the OSRP update process, the public workshop, online survey, and input opportunities at locations around Burlington from December 11, 2018 and January 11, 2019. Because attendance at the first public workshop on September 25, 2018 was low attendance, both from residents as a whole and the Indian American community, the OSRP committee met with members of the IAB to talk specifically about open space and recreational needs in their neighborhoods to ensure that these needs were represented in this OSRP. A member of the Burlington Conservation Commission is an active member of the Indian American community and was able to help the OSRP committee make connections with IAB.

3 Community Setting

3.1 Regional Context

The Town of Burlington is located thirteen miles northwest of Boston and twelve miles south of Lowell in Middlesex County in northeastern Massachusetts. It is bordered by the towns of Bedford to the west, Billerica to the northwest, Wilmington to the northeast, Woburn to the southeast and south, and Lexington to the south (see Map 1).

³ <https://www.mass.gov/service-details/environmental-justice-policy>



Map 1. Regional Context

Burlington is a member of the North Suburban Planning Council (NSPC), one of eight Metropolitan Area Planning Council (MAPC) sub-regions. The NSPC serves not only to represent its nine communities in the MAPC, but also to organize projects like transportation improvements and other multi-community efforts within the sub-region. MAPC periodically produces a regional “master plan.” *MetroCommon 2050*, has recently been initiated (fall 2018) and will be the regional master plan, examining a variety of planning issues affecting planning and growth (housing, economic development, and open space preservation) of the Boston metro region.

Burlington is commonly recognized as a shopping and entertainment destination and is known as an important regional employment center. Additionally, because of its commercial draw and major surrounding roadways (see Section 3.4.2), it is a key commuter town. The town is also home to a large, primarily middle income, residential community. These components of Burlington’s character materialized from a period of intense growth and activity brought on by the construction of Route 128. Such development brought wealth to the community, but also greatly reduced its available open space. Now in the latter stages of the suburban development cycle, Burlington is working to save what open space remains. It is also working to meet future demands of a changing demographic to improve the Town’s habitability and sustainability.

Burlington is home to the Burlington Mall, a well-known upscale shopping center, directly across the street from a ten screen AMC movie theater and a large two-story Barnes and Nobles bookstore. The Burlington Mall is one of the largest in the region with 167 shops and a 775-seat food court. Within a quarter mile of the mall in most directions you can find strip malls, fast food and dine-in restaurants, and brand name retail chains – all of which draw numerous residents and visitors. Large companies also contribute to the character of the town including Oracle and the Lahey Hospital and Medical Center.

Burlington is located at the headwaters of three watersheds: Shawsheen, Mystic, and Ipswich rivers. Much of western Burlington lies within the Shawsheen River watershed. The northeastern part of town lies within the Ipswich River watershed. Finally, southeastern Burlington lies within the Mystic River watershed. Although sites along Burlington’s waterways are prone to flooding, much of the land was built upon prior to regulations limiting such actions. Additionally, redevelopment of such land will continue due to existing zoning development laws and limited environmental regulations for previously disturbed lands.

3.2 History of the Community

Burlington went through numerous transformations before becoming an independent town. Like most of the United States, Native Americans first lived and prospered in the region. This dynamic changed in 1640 when European families settled in the area, which then became known as Charlestown Woods. In 1642 a large part of Charlestown Woods was established as the City of Woburn, the northeast corner of which became known as Shawshin. By 1730 Shawshin became a separate geographical entity known as the Woburn Second Parish, and in 1732 its own meetinghouse was built – the Burlington Meetinghouse. Sixty-nine years later, on Thursday, February 28, 1799, the Woburn Second Parish was officially incorporated as the Town of Burlington.

Over the next 100 years, Burlington consisted of a small agricultural community with only a few hundred residents. It contained gristmills, sawmills, a blacksmith shop, and tavern stops where travelers were offered overnight accommodation, food, and drink. Around 1840, the first genuine town industry, Reed's Ham Works, began. Although the town also developed a limited industry in shoe crafts and market agriculture, farming was the dominant trade.

In the 1920s, summer cottages were built in the Winnmere and Havenville section of the Town for city residents to vacation. However, in the Great Depression, many of these cottages became their owners' permanent homes due to financial difficulties. To support this expansion, by 1949 the Town had formed a water district with the goal to provide a fresh, clean water supply.

In the early 1950s Route 128 was built – the greatest infrastructure change to impact the Town to date. Prior to this, Burlington was inaccessible by major roads or rail services. Route 128 brought traffic from all over the state, resulting in considerable residential and industrial growth. Farmlands gave way to housing subdivisions, office buildings, and the electronics industry. New schools had to be built to support the influx of relocating families. In the ten years between 1955 and 1965, Burlington was reported as the fastest growing community in the state. The population remained reasonably steady at around 23,000 residents for the next 30 years. By the 2010 Census, the population reached 24,498, and in 2016, the American Community Survey (ACS) estimated the population to be 25,698 residents.

Local historic sites remain as a testament to the Town's history. They include a historic trail featuring two National Register buildings, two restored tavern stops, one-room schoolhouses, the Walker House, and the Old Burying Ground (See Section 4.6 for more on Burlington's historic sites).

3.3 Population Characteristics

Burlington is a densely populated suburb consisting of predominantly middle to middle-upper class residents employed in white collar work. The ratio of jobs to working residents remains consistent at around 2.5. With more than two part-time or full-time jobs for every working resident, Burlington represents an important job center for the region that "imports" workers from many other communities.

According to the ACS, adults over forty continue to compose more than half of Burlington's population, and 24% of the population is older than sixty. Another quarter of Burlington's population is under the age of 21. Most of the recreational activities are geared towards children. Although recreational activities for children will continue to be essential, Burlington must shift some focus toward adult recreation and the aging population. More activities are needed which address family recreation and adults-only recreation. New activities in this category will also accommodate the thousands of workers who commute to Burlington every day.

School-aged children, whose population decreased slightly over the past decade, must continue to have access to recreation and open space facilities to meet the demand, and there has been a large increase in youth sports participation over the past several years. Additionally, it is crucial that the elderly

population has access to more facilities that offer easy navigation, handicapped accessibility, safety, and areas for rest/relaxation/sitting. Not only do we need to address housing needs for this population, but we also must provide a community that encourages activity as people age.

3.3.1 Population

Population Growth

Burlington began as a small agricultural community, but with the construction of Route 128 the Town's population burgeoned, quadrupling over fifteen years from approximately 5,000 residents in 1955 to more than 20,000 residents in 1970. For the next thirty years, the number slightly decreased and then held steady at approximately 23,000 individuals. By 2016, the population was estimated at 25,698 (Table 1). The median age of residents increased in the 1990s from 24 to 35.6 years, and was estimated to be 42.5 years in 2016.⁴

As shown in Figure 1, the Donahue Institute at UMass Dartmouth estimates that the regional population including Burlington will become older in the coming decades, with less pronounced bulges attributable to

the Baby Boomer (residents born between 1946 and 1964) and Millennial (residents born between 1981 and 1996) generations. Projections further suggest that the population growth in the region will be fastest in the next few years before slowing in the 2020s. Forecasted slowing in the population growth rate is attributed to a decreasing natural increase (births minus deaths) in the region as Baby Boomers age (Figure 2). MAPC projects a similar trajectory, but at a slower pace, both under their Stronger Region Scenario and Status Quo Scenario.⁵

According to the ACS, there was a 15% increase in residents 50 years and older from 2010 to 2016, following a 22% increase from 2000 to 2010.

The population of residents between the ages of 15 and 34 has grown since the 2010 Census by 18%, from 5,413 in 2010 to an estimated 6,421 in 2016.⁶ This increase is a reversal of a decreasing trend in this age group in the years prior to 2010. In the coming decades regional estimates suggest this age group will resume a decreasing trend.⁷

Table 1. Burlington Population Change by Age, 2010-2016

Age Group	2010	2016	% Change
0-9	3040	2787	-8.32%
10-19	2655	3141	18.31%
20-29	2621	2685	2.44%
30-39	3294	3415	3.67%
40-49	3801	3881	2.10%
50-59	3096	3690	19.19%
60-69	2581	2570	-0.43%
70-79	1902	2168	13.99%
80 and older	936	1361	48.48%
Total	23,926	25,698	7.41%

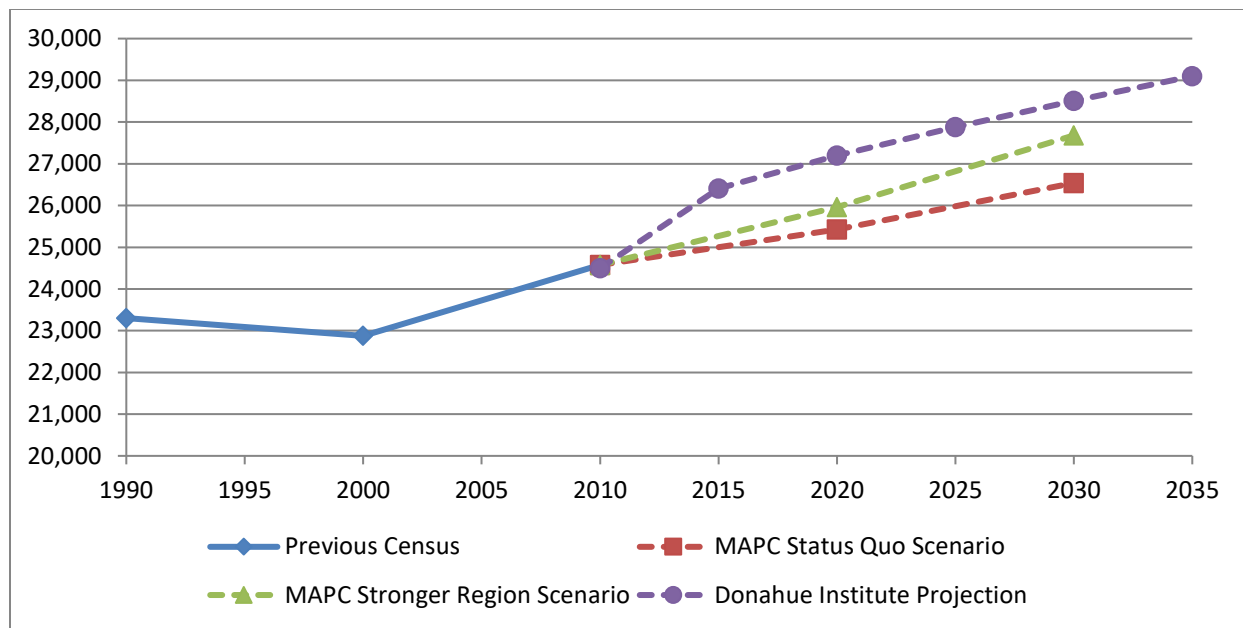
Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates

⁴ U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

⁵ <https://www.mapc.org/learn/projections/>

⁶ U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

⁷ Donahue Institute



Source: MAPC (2014), Donahue Institute (2015), U.S. Census Bureau (1990-2010)

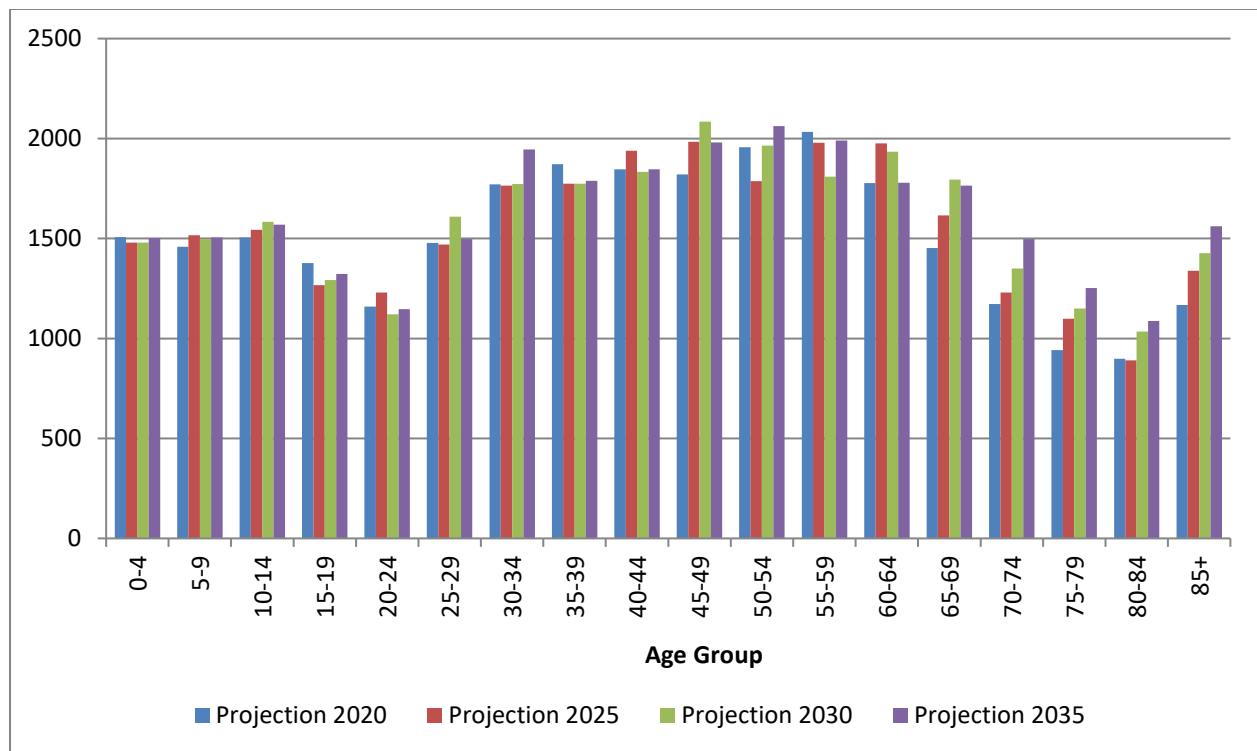
Figure 1. Population Projections for Burlington through 2035

The population of school aged children (under 19) is commonly cyclical but has been relatively steady since 2000. School enrollment numbers are expected to reflect a small short-term increase as a result of the growing housing stock. Long term trends reflect a stabilization of the age groups commonly associated with parenting, between 30 and 45, and projections to the 2020-2035 calculate a stable, if slight increase, in school aged children (see Figure 2).

On the whole, the majority of Burlington's population is between the ages of 20 and 64 (58%). Conservation and recreation programs must provide for this young to middle aged adult population. Serving this age group shares the benefit of also serving the population which commutes to Burlington to work. However, Burlington must also be proactive in preparing for the growing number of seniors in town, which also involves allowing for the handicapped accessibility and usability of town open space and recreation.

Household Composition

Burlington has predominantly single-family detached homes, with 94 percent of the households owning one or more cars. The average household size is 2.76 people, and roughly 77% of all households are family households (two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together). Thirty-two percent of these have children under the age of 18. Only 23% of the town is non-family households, 65% of which are married couples.



Source: MAPC Population Projections, 2014

Figure 2. Population Projections by Age Group (2020-2035)

Persons with Disabilities

Disability information is also vital when considering open space needs. In 2016, it was estimated that 7.1% of the population under the age of 65 had disabilities. Of the burgeoning segment of residents 65 years and older, 33.5% were identified as disabled. The Burlington Disability Access Commission is active in meeting the needs of all residents with disabilities and ensures equal access to all programs and services provided by the Town.

Environmental Justice Communities

As noted in Section 2.3, the Massachusetts Environmental Justice Policy defines EJ communities as “those segments of the population that EOE has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources. They are defined as neighborhoods (U.S. Census Bureau census block groups) that meet one or more of the following criteria:

- The median annual household income is at or below 65% of the statewide median income for Massachusetts; or
- 25% of the residents are minority; or
- 25% of the residents are foreign born; or
- 25% of the residents are lacking English language proficiency.”⁸

⁸ <https://www.mass.gov/service-details/environmental-justice-policy>

Burlington has growing Indian and Arabic communities. According to the ACS, 15% of the population is Asian alone, a figure driven by people from India. International immigration is expected to continue to contribute to Burlington's population. The concentration of Indian-born residents in two neighborhoods places Burlington as one EJ communities within the Commonwealth, wherein that population meets two of the four criteria for EJ: 25% or more of the residents are minority and 25% or more of the residents are foreign-born. These areas are show in Map 2.

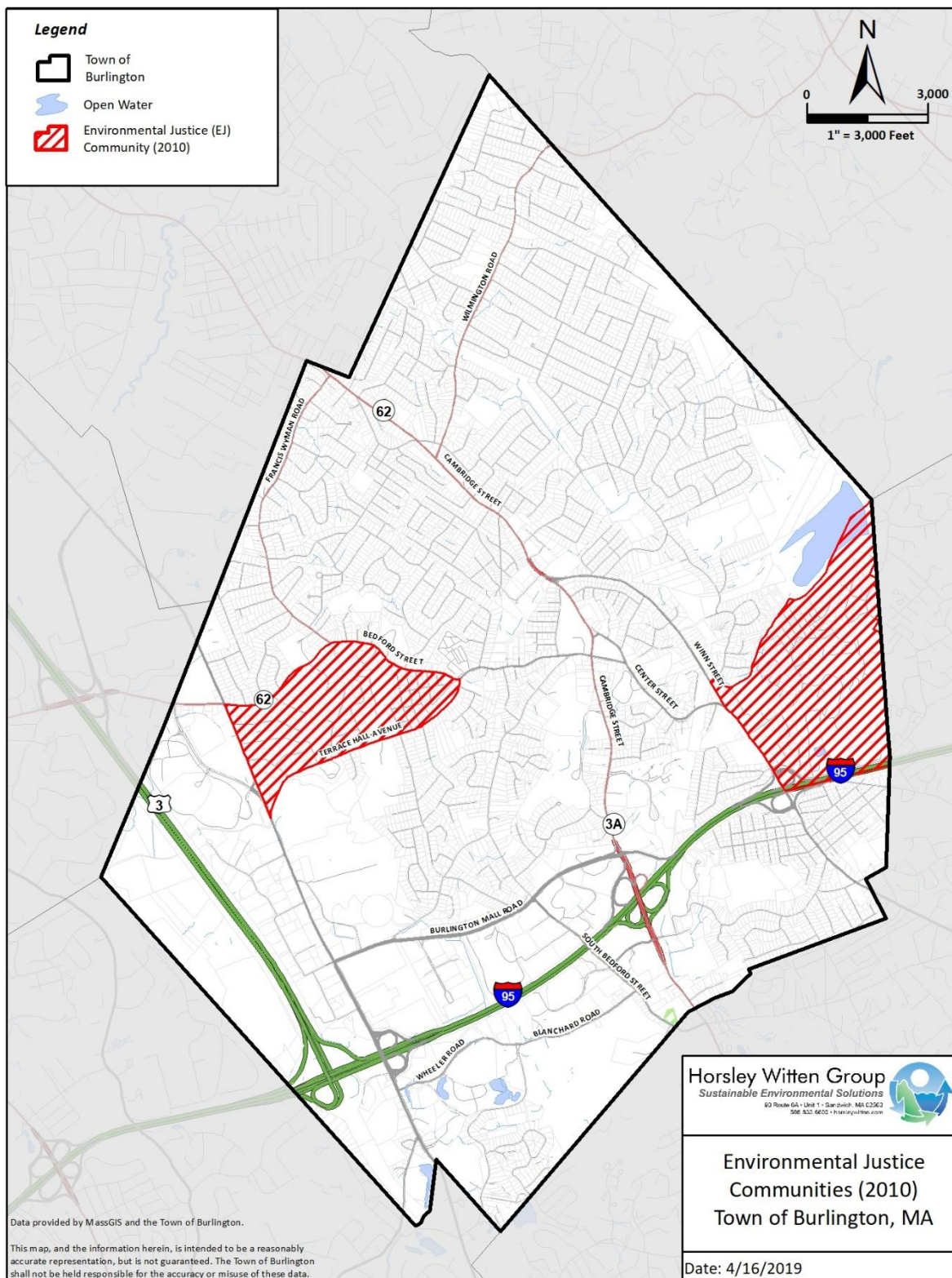
3.3.2 Density

The population density per square mile of land in Burlington is 2,064, a number that since 1970 has fluctuated by only $\pm 1\%$. The housing density is 808 units per square mile, with roughly 46% of total land used for single or multi-family residential properties. Of the remaining land, 17.1% is commercial or industrial; and 36.7% is forestry, agricultural, wetland, or open lands.

Traditional New England town centers are compact and offer a mix of uses that can create higher densities. Burlington's town center activities are currently more geographically dispersed. Civic and recreational uses generally occur around the Town Common ("The Commons") and neighborhood commercial uses are located along Cambridge Street at Terry Street ("The Center"). To create more activity and a lively center, the Town's Master Plan (Draft 2018) identifies The Center as a place to integrate housing with businesses, which can increase the density of residents in this immediate area. To make this area successful for both residents and businesses, the draft Master Plan highlights the importance of scale of development and investment in pedestrian amenities to encourage walkability.

3.3.3 Household Income and Employment

In 2016, Burlington families had a median income of \$110,517 and a mean household income of \$125,418. The per capita income was \$41,548. Residents predominantly fall into the middle to middle-upper class income categories, with 83% of families earning more than \$50,000 per year (Table 2). However, an estimated 37% of Burlington households, or about 2,500, have incomes below 80% of the regional median family income. This is considered "moderate income" and is the level that qualifies for affordable housing. Of these households, almost 1,800 have incomes below 50% of the median, considered "low income."



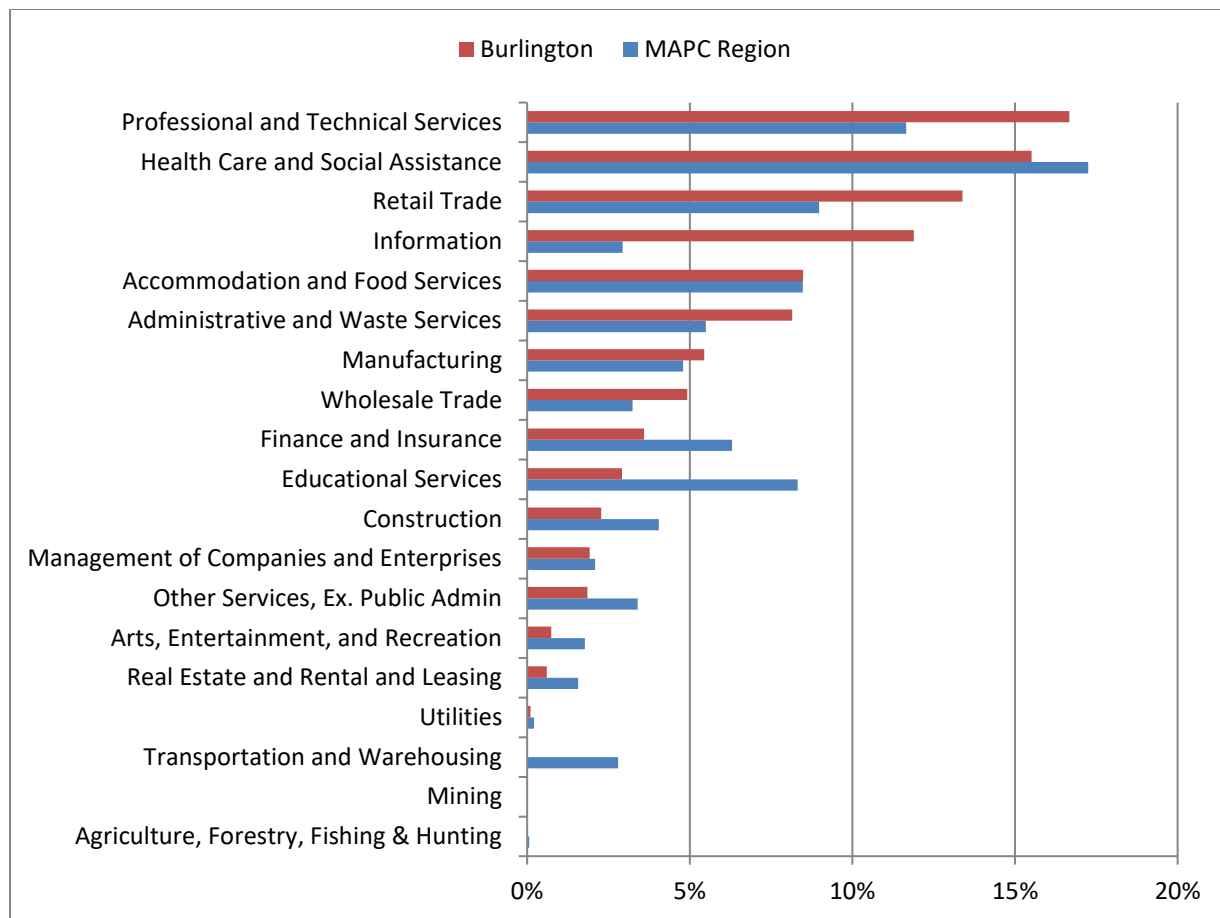
Map 2. Environmental Justice Communities (2010)

Table 2. Family Income Levels in Burlington

Income Range	Number	Percent
Less than \$10,000	186	2.70%
\$10,000 to \$14,999	61	0.90%
\$15,000 to \$24,999	157	2.30%
\$25,000 to \$34,999	213	3.10%
\$35,000 to \$49,999	512	7.50%
\$50,000 to \$74,999	943	13.80%
\$75,000 to \$99,999	1,018	14.90%
\$100,000 to \$149,999	1,691	24.80%
\$150,000 to \$199,999	1,006	14.70%
\$200,000 or more	1,034	15.20%
Total	6,821	100.0

Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates

The occupational profile of Burlington residents (Figure 3) resembles that of the metropolitan region. Executive Office of Labor and Workforce Development data from 2016 indicates that Health Care and Social Assistance, Professional and Technical Services, and Accommodation and Food Services are large occupational sectors in both regions. Burlington outpaces the larger MAPC region in Retail Trade, Information, and Administrative and Waste Services, and has roughly 5% more of the population working in Professional and Technical Services. Conversely, Burlington has lower proportions of its workforce employed in Finance and Insurance, Education, Construction, and Transportation and Warehousing sectors when compared to the MAPC region. Since 2006 the Manufacturing and Administrative services sectors have grown by 3% and 2.5% respectively, while the Education and Information sectors have declined somewhat (by 3% and 1.8%).



Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates, MAPC

Figure 3. Occupations in Burlington and MAPC Region, 2016

Burlington residents have been relatively successful in the employment market in recent decades. In 2017 Burlington had an average unemployment rate of 2.9%, compared to a rate of 3.6% for Massachusetts as a whole. Additionally, an estimated 5.2% of individual Burlington residents and 4.5% of families had income below the poverty level in 2016.

While the unemployment rate is low and seemingly low percentage of families had incomes below the poverty level, many households are burdened by housing costs. A household that spends more than 30% of its income towards housing (rent, mortgage, insurance, utilities, etc.) is considered burdened. If it spends more than 50%, it has severe housing cost burdens. As reported in the Burlington Master Plan (Draft 2018), 70% of the Town's low- or moderate-income households are housing cost burdened, and 42% of which are severely housing cost burdened. About 60% of low- and moderate-income household homeowners are cost burdened, as are over 80% of renters.

3.3.4 Major Industries, Employers and Employment Trends

Burlington is commonly known as a shopping and entertainment destination, with the Burlington Mall and surrounding stores drawing visitors from beyond the Town's borders. Yet its prime location at the junction of Route 128 and 3, and its large office and industrial parks, also make Burlington one of the

principal economic centers of the region. Table 3 lists the businesses in Burlington employing more than 500 people.

As mentioned, approximately 38,000 workers commute daily to their jobs in Burlington. The Town has a diverse mix of occupations that generally pay 20% more than the regional average. The largest employment sectors are information technology, health care, retail, manufacturing and wholesale trade. Table 3 is a list of the top employers, most of which are clustered in the southern section of Burlington along Routes 128 and 3. More specifically, they are located within one-half mile of either side of Route 128 and one-half mile to the east of Route 3.

Table 3. Businesses in Burlington employing more than 500 people

Company	Address	Range of Employees
Lahey Hospital and Medical Center	41 and 31 Mall Road 63 South Avenue	5,000-9,999
Genesis HR Solutions	2 Burlington Woods Drive	1,000-4,999
Oracle/Sun Microsystems	10 Van de Graaff Drive and Network Drive	1,000-4,999
Aetna Student Health Agency	100 South Bedford Street	500-999
Avid Technology Inc	Network Drive	500-999
EMD Millipore	Summit Drive	500-999
Nuance Communications, Inc.	Wayside Road	500-999
Peace Plus Maintenance Corp.	The District	500-999
Raytheon	3 Van De Graaff Drive	500-999
Wegmans	3 rd Avenue	500-999

Source: Largest 100 Employers in Burlington, prepared by the MA Executive Office of Labor and Workforce Development, obtained December 2018. Ordered by size range then alphabetically within the size range.

The number of jobs in town reached a minimum of 36,000 in the recession year of 2002 but has since climbed to over 40,000. Due to Burlington's accessibility and infrastructure, and the gradually improving economy, the Burlington Planning Department predicts industrial presence to continue to increase. Developers seem to agree, as several office and mixed use projects have been constructed recently and continue to be developed, including the Northwest Park, 3rd Avenue, and The District. This is a desirable scenario, as in most cases the zoning for such growth is already in place and the land being considered has already been disturbed. An added benefit of such redevelopment is the required cleanup of any hazardous materials on-site.

3.4 Growth and Development Patterns

3.4.1 Patterns and Trends

Transportation corridors have been the defining factor for much of Burlington's recent development. Pre-1950s, Burlington was shielded from the growth seen in neighboring towns because railroad

extensions bypassed the community. Residential development that occurred was generally close to surface roads, with subdivisions eventually extending from these roads. However, the construction of Routes 128 and 3 greatly magnified this development pattern, as the town evolved from a small agricultural community to a thriving commercial suburb.

Burlington's accessibility to Boston, Lowell, and surrounding suburbs continues to create development demands, both residential and commercial – a fact evident as Burlington now approaches build-out. As a suburban community, historically the housing stock in Burlington has been predominately single family dwellings, and uses (residential, commercial, industrial, etc.) remain discrete and rarely mix. That trend has changed, and over the past decade, new mixed used development has been built in areas around the Town Center. These developments typically have small housing units and provide opportunities for the current residents as they age in place as well as starter homes for young professionals and young families wanting to move into the area.

According to the Town's Master Plan (Draft 2018), some recommendations that focus on where new development should take place in the future and what it should look like, are to:

- Allow and encourage compact, well-organized development within commercial and retail areas of town.
- Promote a broader mix of uses in areas where it will enhance efficient use of the land, increase the quality of life, and keep Burlington at pace with other communities as a great place to live, work and visit.
- Enhance the Cambridge Street corridor as Burlington's own "Main Street" providing convenient and community-serving businesses and institutions in a mixed-use setting along an increasingly attractive corridor.
- Promote sustainable land use practices throughout the community.
- Preserve and enhance the land devoted to open space.
- Clearly define and strengthen the community core of Burlington including the civic-oriented Common area and the business-oriented Town Center.

3.4.2 Infrastructure

Transportation Systems

In addition to Route 128 and Route 3, Route 93 and Route 495 are in close proximity to Burlington. Interstate 93 connects Boston and New Hampshire and intersects Route 128 in the neighboring city of Woburn. Interstate 495 lies roughly 15 minutes north of Route 128 via Route 3. Additionally, Route 3A, one of the main surface arterial roads, runs through the town in a north-south direction. Route 62, another major road, runs east-west through the northern section of Burlington. The combination of these routes makes Burlington easily accessible by major highways from almost all directions.

Burlington's proximity and access to Boston allows it to function as a bedroom community. Like many outlying suburbs of Boston, most residents unfortunately rely on a car for transport to surrounding

localities because the public rail system is insufficient. Bus service through the Massachusetts Bay Transportation Authority (MBTA) connects the town to 78 other municipalities. Two bus routes provided by the Lowell Regional Transit Authority (LRTA) provide additional access to and from Burlington to points north. Passenger commuter rail service can be accessed in the neighboring communities of Wilmington and Woburn. The MBTA Red Line subway can be accessed from local bus routes, transporting riders to Alewife Station in Cambridge.

It was estimated in 2016 that most Burlington residents, 95%, get to work by car. Of them, 81% commuted alone. Of the remaining 5%, the majority used public transit (2.9% of commuters), fewer walked (1.4%) and fewer used bicycles or other means of commuting. The majority of Burlington residents (75%) work outside of Burlington, and residents have an average commute of 28.5 minutes to work.

Two options for air travel are also accessible from Burlington. Logan Airport in Boston is a 30-minute drive or is accessible by public and private shuttle services. Closer to home is L.G. Hanscom Field, a general aviation airport located nine miles away in Bedford, which offers very limited commercial services.

Within its borders, Burlington has its own shuttle bus service, Burlington Public Transport, which runs six routes throughout town. There are few neighborhood shops in Burlington, so most residents opt to drive between the residential areas in the northern part of town and the commercial areas in the southern and western parts of town.

Non-motorized transportation is another option in town, although it has not reached its potential. Many main and secondary streets are lined with sidewalks, but the sidewalk network is inconsistent, particularly on roads built before the 1990s when sidewalks were not required. Officials continue to strive to install sidewalks on these roads to facilitate pedestrian movements throughout town and are putting more pressure on developers to include these amenities in their developments.

The Town has submitted a Letter of Interest to the Massachusetts Department of Transportation Complete Streets Program.⁹ A “complete street” is one that is designed for not only cars, but also walking and biking. Through this program, the Town would be eligible for funding to make improvements to local streets that would increase amenities that improve conditions for walking and biking. Eligibility requires the Town to adopt a Complete Streets Policy and develop a prioritization plan of streets that need improvements.

In 2018 Burlington, along with Lexington and Bedford, embarked on a Tri-town study examining transportation systems in each town and how those systems can be most efficiently co-developed. While each town will likely continue to fund their own efforts, the study aims to coordinate those efforts for maximum efficiency.

⁹ <https://masscompletestreets.com/>

Water Supply Systems

The Town of Burlington has supplied water for its residents since 1949. The water system in Burlington includes three finished water storage tanks with six million gallons of capacity, roughly 130 miles of distribution piping, one river diversion station with a piping capacity of eight million gallons per day (mgd), one raw water reservoir with a capacity of 513 million gallons, one surface water treatment facility, one groundwater treatment facility, and seven gravel-packed wells. These sources produced approximately 1.07 billion gallons in 2016, with a daily average of 2.93 mgd and a daily maximum of 5.109 million gallons.

While this daily average has remained constant over recent years, the major consumer has changed from commercial to residential. Summer water demand is much greater than winter demand, when residential usage increases by 113% and commercial usage by 66%.¹⁰ To meet this water demand, generally in the summer 60% of the water comes from the reservoir and 40% is supplied through the Vine Brook wells. In the winter 80% comes from the wells and 20% from the reservoir. Emergency interconnections are available to Lexington (.7 mgd) or Billerica (1 mgd) through the Massachusetts Water Resource Authority (MWRA).

Two water treatment plants treat both surface water and groundwater for use in town. The Mill Pond facility can treat up to 6 mgd from Mill Pond reservoir; water originally diverted from the Shawsheen River. This diversion, however, is limited by a permit based on river flow, and during times of drought such as 2015 and 2016 only negligible amounts of water can be diverted, resulting in irrigation bans. The Vine Brook facility treats groundwater extracted from seven active wells and is capable of treating 3.3 mgd. In 2013, three town wells at the Vine Brook facility were taken offline after 1,4 dioxane was found in samples, exceeding the Massachusetts Department of Environmental Protection (DEP) guideline of 0.3 micrograms per liter.

Burlington hired Fay, Spofford & Thorndike (now Stantec) to perform a feasibility study in 2015 to identify potential water treatment technologies. In 2016, Stantec completed a Future Water Demand Feasibility Study considering the costs of various options for the Town in both the short and long term. Stantec recommended that the Town terminate the use of Vine Brook Water Treatment Plant (WTP), establish a connection to the MWRA sufficient to replace Vine Brook WTP, and continue utilizing the Mill Pond WTP at capacity. This plan was approved at a Town Meeting in May of 2018, the Environmental Notification Form for the connection to MWRA was published November of 2018, and the Town is moving forward on this alternative to replace the Vine Brook WTP.

Sewer Service

Burlington's sewer system, a relatively old one, has a 9.2-mgd capacity with a daily average of roughly 3.76 mgd discharged. The system runs from Burlington, through Woburn, Winchester, Medford, Everett, Chelsea, and onto Deer Island; and is managed by MWRA. A recent upgrade in Winchester has added

¹⁰ http://homenewshere.com/daily_times_chronicle/news/burlington/article_bddc53b8-367f-11e8-a642-7f28e190ca14.html

capacity to the existing system. The Winchester portion of this line still provides less capacity than needed, and during times of high rainfall this causes an overflow problem in the system.

In the last few years, various new methods have been employed to deal with stormwater in the sewers. Woburn and Burlington still must divert sewage from the system during storm events, which in Burlington's case means the discharge of sewage into Vine Brook. Due to this situation, DEP has placed an Administrative Consent Order on the Town which requires rehabilitation measures when an increase in sewage is proposed. This DEP moratorium affects town development by requiring that five parts of infiltration/inflow sources be removed for every additional one gallon of increased sewage. For example, in a four-bedroom house, a total of 440 gallons per day of sewage is estimated to be generated (110 gallons per bedroom). In order to comply with DEP requirements, the developer must rehab infiltration/inflow sources in the sewer system to remove five times the 440 gallons (2,200 gallons) of infiltration/inflow sources or pay to have the work done. DEP approval is required to confirm that the amount of infiltration/inflow sources reduced meets requirements in the consent order and that the quality of the work for all projects is commensurate with industry standards.

3.4.3 Long-Term Development Patterns

Map 3 is the Town's zoning map. The current local land use zoning law in Burlington is half acre zoning (20,000 square feet) for a residential single-family lot. Recent residential developments in town have been small, over the last ten years, averaging two subdivisions per year of roughly two to three lots each.

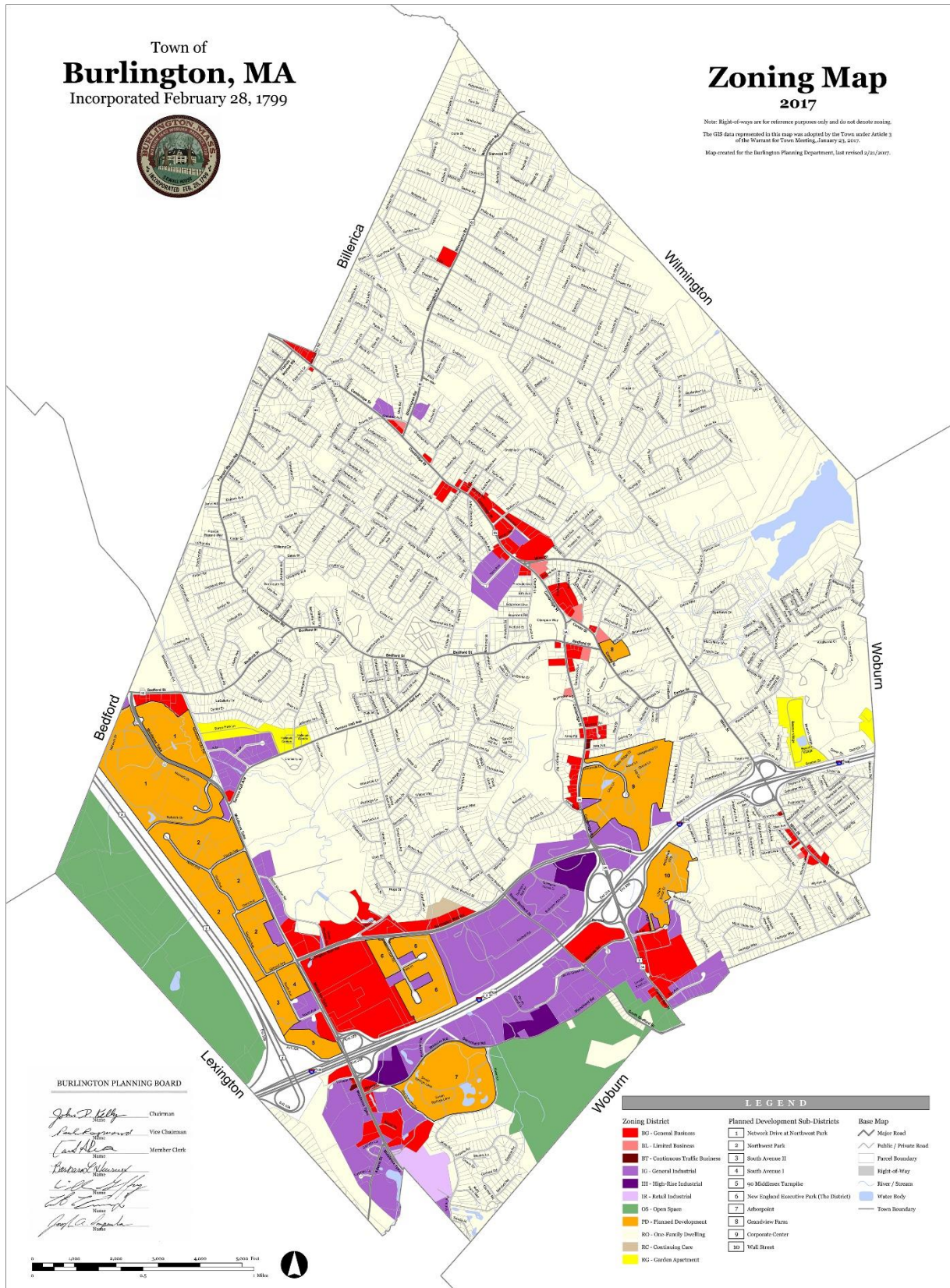
The impact of future subdivisions and infrastructure expansions on existing open space will be minimal because both residential and commercial development is already nearing build-out. Additionally, any new subdivisions would have minimal impact on town infrastructure because the roads and sewers already extend to all parts of town. Thus, when maximum build-out is reached, there will not be a great deal of change from the current state. As such, future subdivisions will cause only minor increases in traffic; and the total population is not expected to increase by more than 2,000 people. Provisions for multifamily housing in the Town Center and Planned Development Districts (PDD) will enable both residential and commercial growth and may lead to a higher demand for use of existing recreational facilities and more users of open space. In fact, the PDD process often results in setting some land aside as permanent open space.

Town of
Burlington, MA
Incorporated February 28, 1799



Zoning Map
2017

Note: Right-of-ways are for reference purposes only and do not denote zoning.
The GIS data represented in this map was adopted by the Town under Article 3
of the Warrant for Town Meeting, January 23, 2017.
Map created for the Burlington Planning Department, last revised 2/22/2017.



Map 3. Burlington Zoning Map

Under current zoning, the Burlington Planning Department suggests a residential build-out number of 10,200 households. The 2004 Build-out analysis performed by the Massachusetts EOEa predicted that only 319 additional households could be built. In 2016, there were an estimated 9,900 residential households, an increase of about 600 units over the past 10 years. **Error! Not a valid bookmark self-reference.** lists multifamily housing developments in Burlington since 2011 and the number of residential units to be constructed.

Table 4. Multifamily Housing Developments Since 2011

Project	Address	Total # of Units	# of SHI Affordable Units
The Tremont	32 Second Avenue	180	18
The Huntington	20 Second Avenue	120	12
The Residence of Burlington Center	20 Corporate Drive	271	68
The Residence at Simonds Park	160 Cambridge Street	29	3

Source: Planning Department

There are two zoning by-laws of interest that may positively influence long-term open space and recreation planning:

Section 11.6.0 of the Town Zoning Bylaw “Open Space Residential Development”

The purpose of this bylaw section is to encourage the preservation of common land for conservation, agriculture, open space, and recreational use and to provide increased opportunities for affordable housing. In addition, it is meant to help preserve historical and archeological resources and protect existing and potential municipal water supply by promoting more sensible placement of buildings through reduced setback and increased buffer requirements. The bylaw can be used for any residential development that meets the minimum requirements and works through a special permit review and issuance process. This provision was one of the amendments adopted in 1988 in response to the affordable housing crisis of that decade.

Open space residential development is also commonly called “cluster” development, and the terms are frequently used interchangeably. The basic principle of such development is to group new homes onto part of the development parcel, so that the remainder can be preserved as undeveloped open space. Traditional zoning and subdivision regulations require homogeneous spacing of buildings and usually result in greater disturbance to the property as it is developed. Clustering buildings reduces the amount of vegetation to be cut, allows for greater buffers to existing neighborhoods or natural features, and has fewer roads and other utilities to maintain.

Under Burlington’s bylaw, 40% of the land area must be set aside as permanent open space for cluster development. The Town of Burlington has seen this principle used only twice – once in a development known as Vine Brook Farms (sometimes referred to as “Cranberry Estates”), which is a cluster of 25

single family dwellings on a 16-acre parcel, and also in a development called Beacon Woods, a 26-unit town house condominium project on 12 acres.

The reason for the limited use of this provision is that it requires a 10-acre minimum lot size, which today is neither practical nor effective because there are simply too few 10-acre parcels left in the town. The only individual parcels of this size are the Burlington Housing Authority parcel on Adams Street and the Town-owned Wildwood School site. There are only three other opportunities where 10 acres can be amassed by consolidation of parcels – the Quinn Perkins gravel pit combined with some Town-owned land on Adams Street, the former Thorstensen gravel pit on Muller Road, and several lots in the Saw Mill area with multiple ownership.

The Draft 2018 Master Plan recognizes the importance of this bylaw to increase the amount of protected open space for recreational as well as natural resource protection purposes.

Section 12.1.0 of the Town Zoning Bylaw “Planned Development District” (PDD)

This zoning tool allows for mixed use projects. Part of the bylaw’s objective is to let development standards be tailored in a more site-specific manner, and to allow the town to evaluate impacts in a more comprehensive way. The process requires action by Town Meeting on a concept plan, followed by detailed Planning Board review. There are no pre-determined regulations regarding density or use, rather these are negotiated so that the performance standards can be tailored to the natural features of the property.

In addition to open space goals, these projects also achieved local goals of affordable housing. Grandview Farm also achieved an historic preservation goal with the Town gaining ownership of the Marion Tavern, and Arborpoint provided an important segment of the bicycle path network, fostering the goal of a route connecting to the regional Minuteman Bicycle Trail in the neighboring town of Lexington.

More recent PDD’s include Northwest Park, The District (formerly New England Executive Park), South Avenue II, and 90 Middlesex Turnpike. Each of these involves demolition of existing commercial facilities and redevelopment of the sites. While no notable open space is necessarily created, each does reduce impervious surface area and improve the quality of water runoff in areas contributing to the Town’s water supply. The PDD should continue to be used as a tool to achieve “smart growth” initiatives being promoted by the current state administration in addition to locally identified objectives.

4 Environmental Inventory and Analysis

4.1 Geology, Soils, and Topography

4.1.1 Topography

Burlington’s total land area is 11.88 square miles, or approximately 7,577 acres. The terrain is undulating, with the lowest elevation at about 100 feet above sea level (the southeast border of town

between Cambridge and Winn Streets) and the highest elevation at approximately 300 feet above sea level (Greenleaf Mountain).

4.1.2 Geology

Geologically, Burlington is located along the Bloody Bluff Fault which separates two very different landmasses called the Nashoba zone (to the west) and the Milford-Dedham zone (to the east). The fault passes up from Connecticut and out to the north shore. The landmass to the east of the fault was driven under the landmass to the west when they collided during the Paleozoic era. Both are believed to be derived from the African plate, which then became attached to the North American continent after colliding.

A large block of land was caught in this collision and crushed, forming the Burlington Mylonite Zone. Movement along the Bloody Bluff fault is from northwest to southeast. The Burlington Mylonite Zone passes through the eastern part of town and may be up to 5 kilometers wide in places. Roughly 1.5 kilometers of that width is the direct result of the original action along the Bloody Bluff Fault.

Like most of the faults in New England, the Bloody Bluff Fault is no longer located at the edge of two tectonic plates. This greatly decreases the likelihood of a severe earthquake. However, according to a publication by the Massachusetts Emergency Management Agency, some old New England faults may be reactivated by stresses applied to moving plates. Although there is not enough data to tell which faults are active, the publication warns:

“The probability of a damaging earthquake occurring somewhere in New England are small by worldwide standards, but they are measurable. The chances that a potentially damaging earthquake (Magnitude 5 or greater on the Richter Scale) will occur somewhere in New England in a given year are about 1 in 20.”

4.1.3 Soils

In the *Soil Survey of Middlesex County Massachusetts*, the Natural Resources Conservation Service (NRCS) rates each soil type according to its limitations for several kinds of development, including recreation uses such as camp sites, picnic areas, playgrounds, paths and trails, off-road motorcycle trails, and golf fairways. For the purpose of planning for open space and recreational uses, the characteristics of soils for playgrounds was considered. According to NRCS, playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties which influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties which affect the growth of plants are depth to bedrock or a cemented pan, permeability, and the presence of toxic substances in the soil.

Map 4 shows the locations of Burlington's soil types grouped together by development limitations for playgrounds. A *slight* limitation indicates that the soil is generally favorable for development; a *moderate* limitation indicates that the soil is unfavorable, but special planning and design can overcome the shortfalls; and a *severe* limitation indicates that there will be a major increase in construction costs, design, or maintenance to develop the area. Knowing that an area's soils severely limit development possibilities may make the area easier to protect, but it is not always a sufficient reason for protection.

Appendix B includes a table of soils types in Burlington and their limitations for playground development.

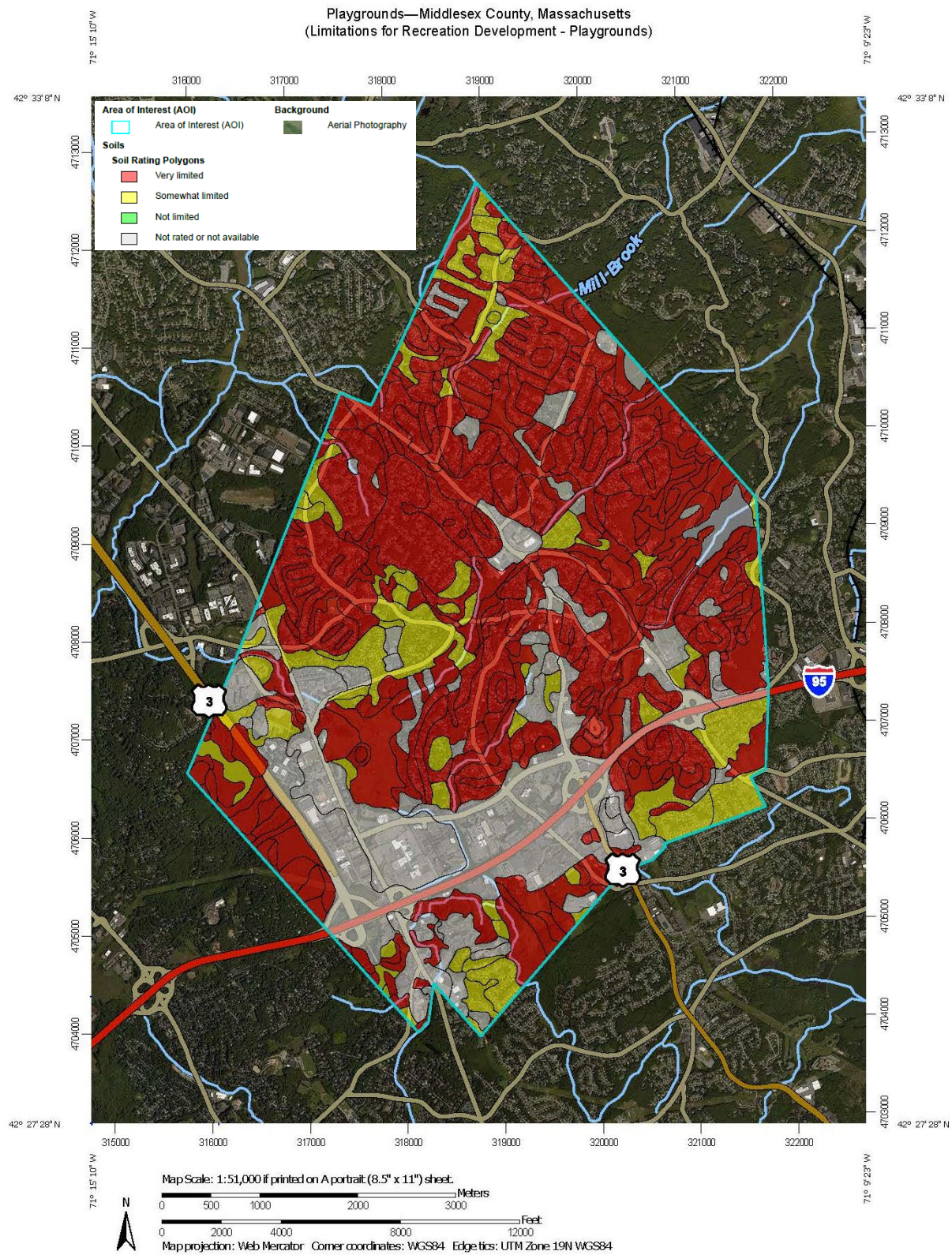
Most of the prime agricultural soils have already been built upon, and the establishment of new farms is highly unlikely. Prime agricultural soils are rare – with simply a few isolated pockets along the southern borders of the town and one large swathe through the center of town.

Additionally, the largest areas with severe development limitations are already either developed or protected - a trend that indicates that remaining unprotected land will be developed if the town continues to grow. As such, delaying the acquisition of land for open space and recreation purposes may erase the possibility of acquiring new land at all. Protected areas with severe limitations include the well fields south of Terrace Hall Avenue, the area north of Mill Pond, and the Little Brook Conservation area north of Mountain Road. Numerous areas with severe limitations have been built on or are in the process of being developed, indicating the shortage of developable lands with more favorable soils.

4.2 Landscape Character

Burlington's landscape character varies, fluctuating from the highly commercial southern section of town, to the mainly single-family residential area in the northern part. One of the most important open-space features overall is the Town Common. This is a quiet landscaped park, regularly used for walking and playing games, as well as for more organized activities such as the summer movies and concerts sponsored by the Recreation Department. With the Town Hall, the Police and Fire Departments, and the Post Office located on the Common, and the library a short distance away, the Common is the symbolic center of the Town. The northern part of the town is residential in character, with a few commercial pockets scattered throughout. These areas primarily consist of single-family homes, with a few multi-family housing developments providing an alternative residential setting.

The residential neighborhoods, ready driving access to stores and transportation arteries, and access to open space have been some of Burlington's strongest draws. While many other towns in the area share the residential aspects of Burlington's character, few have its diversity of land use. The Town's recent planning endeavors have attempted to strike a balance between commercial/industrial land use and the community's residential character and quality of life, including the protection of open space.



Map 4. Soil Limitations for Recreation Development – Playgrounds

4.3 Water Resources

4.3.1 Watersheds

Burlington is located at the headwaters of three watersheds: Shawsheen River Basin (western Burlington); Ipswich River Basin (northeastern Burlington); and Mystic River Basin (southeastern Burlington) (Map 5). Despite being at the headwaters of these three major watersheds, Burlington lacks streams large enough to support water-based recreation activities.

These three rivers are a shared resource with neighboring towns. The Ipswich River links 21 communities in northern Massachusetts, and supplies water to 14 of these. However, rapid growth of surrounding communities is having a high impact on this water system, including increased pollution and excessive water demands (at times causing the river to run dry). The Ipswich River and several of its tributaries are listed as “impaired waters” by DEP. Watershed associations created to protect these watersheds are the Shawsheen River Watershed Association, Ipswich River Watershed Association, and Mystic River Watershed Association.

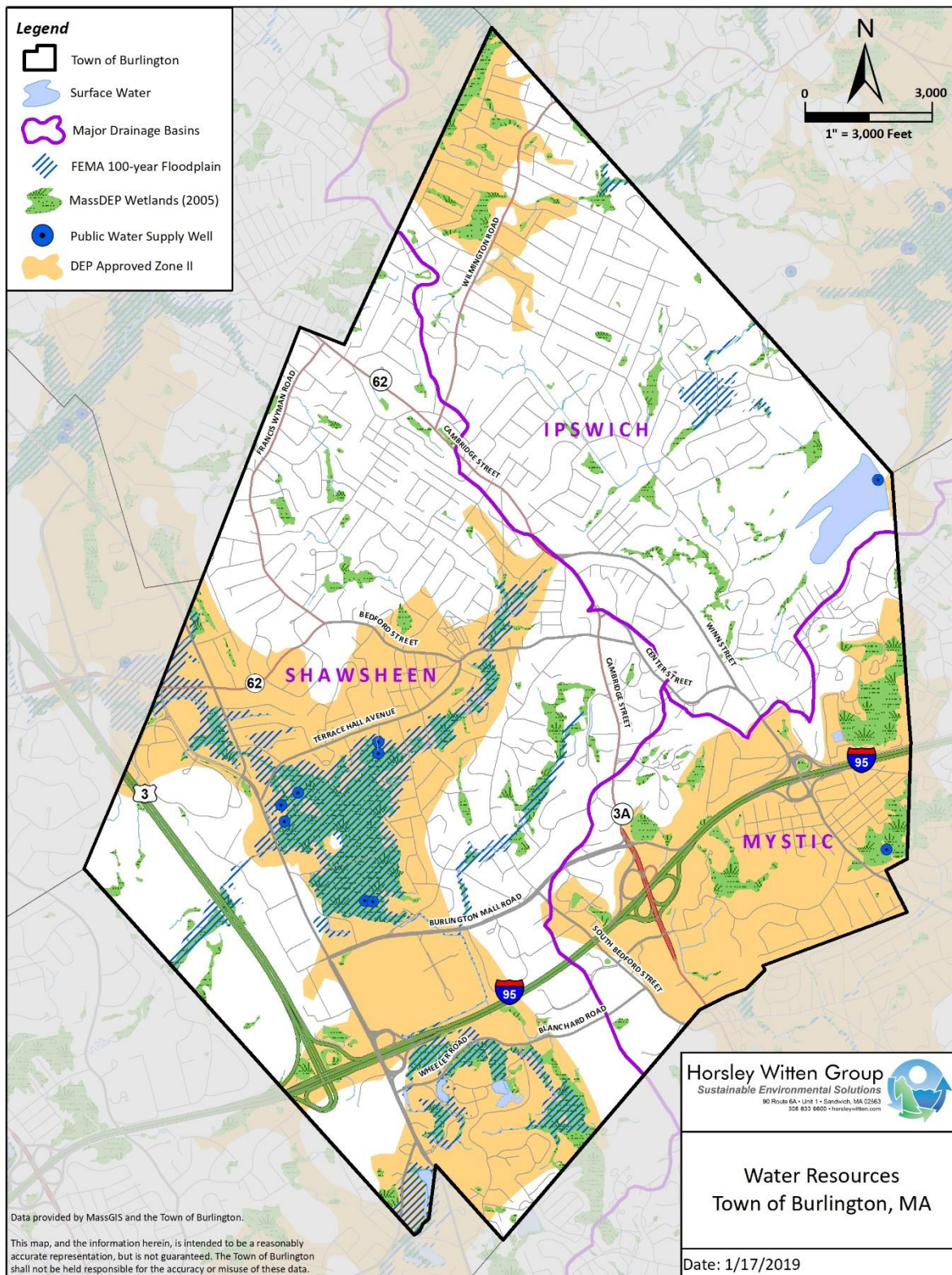
Since 1990, the Town of Burlington Conservation Department has conducted an annual stream cleaning program during the summer months. Many town residents often overlook streams and wetlands until basements begin to flood. As such, these waterways are frequently seen as problem-causers rather than environmental assets, particularly by residents living in flood plains or flood-prone areas. Thus, since 1990, the Burlington Conservation Department has carried out a summer stream management program designed to address this issue. The program’s two main goals are to:

- Remove obstructions which may alter the streams’ flow and exacerbate flooding
- Improve stream habitat by clearing the waterways of rubbish

While these goals are important, the Conservation Department also strives to achieve them with minimal environmental impact. The aim is to strike a balance between reducing the flood risk and sustaining an ecologically fit stream.

4.3.2 Surface Water

Of the 88 acres of deep-water habitats in Burlington (excluding linear streams), the Mill Pond Reservoir accounts for slightly less than three quarters. Ponds (including vernal pools), lakes and streams make up much of the remaining 28% of water bodies. While many small ponds in Burlington may be vernal pools, only fourteen have been certified as such in town. There is no state law protecting vernal pools unless they are both certified and located near or within a resource area protected by The Wetlands Protection Act. Since vernal pools are an important and threatened habitat for a number of endangered species, the Town plans to boost efforts toward vernal pool identification and certification, and has increased their protection under the local wetland bylaw amended in 2015.



Map 5. Water Resources

The largest body of water in town is the Mill Pond Reservoir, which was constructed through the installation of dams. The watershed for the reservoir is unusual because in addition to the naturally occurring watershed, water is pumped into the reservoir from the Shawsheen River located five miles away. The Mill Pond Reservoir is also one source of Burlington's drinking water. For additional information on the reservoir's contribution to the water supply see Section 3.4.2.

None of the non-reservoir water bodies in town are large enough to support recreational activities such as boating or swimming. The reservoir only has unpaved walking trails for recreational activity, as the Town is wary for it to become a heavily-used recreational area because it is a water supply. Water related recreation in Burlington is limited to nature watching and hiking near water, with some fishing.

4.3.3 Aquifer Recharge Area

The Burlington Water and Sewer Division currently operates seven drinking water wells and the Mill Pond Reservoir, all of which are located within the Shawsheen River basin (Table 5). The watershed area for the Shawsheen, which is diverted to the Mill Pond Reservoir, is located in the towns of Bedford, Billerica, Burlington, Concord, Lexington, and Lincoln. Well water is treated at the Vine Brook WTP, and surface water from the Mill Pond Reservoir is treated at the Mill Pond WTP. The water system includes three water storage tanks and approximately 120 miles of water main. The town has also added emergency connections to Billerica, Concord, Lexington, Wilmington, and Woburn¹¹ through the MWRA.¹²

Table 5. Description of the Water Sources (Zone II # 279)

Well/Source Name	Source ID#	Susceptibility
Groundwater Sources		
Terrace Hall Well #1	3048000-01G	High
Terrace Hall Well #2	3048000-02G	High
Middlesex Pike Well #3	3048000-05G	High
Middlesex Pike Well #4	3048000-07G	High
Middlesex Pike Well #5	3048000-08G	High
Lexington Well #10	3048000-11G	High
Lexington Well #11	3048000-12G	High
Surface Water Sources		
Shawsheen River	3048000-01S	High
Mill Pond Reservoir	3048000-02S	Moderate

Source: Mass DEP SWAP Report, June 3, 2003

¹¹ Town of Burlington DPW, Water Department. 2016 annual Water Quality Report. Available online at <http://www.burlington.org/departments/docs/2016%20CCR.pdf>

¹² Stantec, 2016. Water Supply Evaluation: Future Water Demand Feasibility Study

The Town of Burlington has produced water for its residents since 1949, yet the land area that supplies the primary recharge for the wells was not identified until after much of the commercial and industrial area was built over the recharge area. Since then, protective measures have been taken to regulate the operations adjacent to the aquifer.

“Approximately 80% of the Zone II and combined watersheds consist of residential areas, of which a portion is served by private septic systems, with the remainder being served by municipal sewerage. If managed improperly, activities associated with residential areas can contribute to drinking water contamination from sources such as: septic systems, household hazardous materials, heating oil storage, and stormwater.”¹³

In 1978, wells number 3, 4, 5, and 7 were shut down because of contamination. In 1986 the Town received funding to build a temporary treatment plant to treat well numbers 3, 4, and 5. Well number 7 is abandoned due to Trichloroethylene (TCE) contamination, and well numbers 6 and 9 are abandoned because of the presence of high levels of iron and manganese, and removal of these natural compounds to achieve drinking water standards is not financially feasible. A permanent water treatment plant was approved in 1996 (Vine Brook), which treats wells 1-5 and new wells 10 and 11. The Mill Pond Water Treatment Plant was expanded and upgraded in 2007. Testing in 2013 revealed 1,4 dioxane levels in wells 3, 4, and 10 exceeding Massachusetts DEP guidelines. In May of 2018 the Town voted in to take the Vine Brook treatment plant offline permanently and replace its capacity with a connection to the MWRA, thus ending the Town’s use of groundwater for drinking supply when the connection is completed.

4.3.4 Flood Hazard Area.

Significant portions of Burlington are located in 100-year flood hazard areas, denoted as “Zone A” on the Federal Emergency Management Agency’s FIRM Flood Zones Map. Zone A relates to those parcels located in the 100-year floodplain that have a 1-in-100 chance in any given year of flooding. Specific areas in Town that fall into this category, and have the most flooding potential, include areas adjacent to Sawmill Brook from the Wilmington town line to Lucaya Circle and most areas along the entirety of Longmeadow Brook, Sandy Brook, and Vine Brook.

There are three zoning bylaws of interest in Burlington that may positively influence development trends with regards to water resources:

Section 8.1.0 of the Town Zoning Bylaw “100-Year Floodplain District”

The 100-year Floodplain District is an overlay zoning district meant to prevent development in the floodplain and reduce flood damage. Either the Planning Board or the Building Inspector enforces the provisions of this bylaw.

¹³ ¹³ Massachusetts Department of Environmental Protection (2003) Source Water Assessment and Protection (SWAP) Report for Burlington Water and Sewer Division. Available at https://www.mass.gov/files/documents/2019/01/03/swap-nero_0.pdf, page 256.

Section 8.3.0 of the Town Zoning Bylaw “Aquifer and Water Resources Districts”

The Aquifer and Water Resources are also overlay districts, but restrict certain land uses and limit impervious cover. These land areas provide recharge to the Town’s public water supply well. A number of activities are directly prohibited, while others may require a special permit from the Planning Board.

Section 8.2.0 of the Town Zoning Bylaw “Wetlands District”

The Wetlands District is also meant to prohibit or restrict certain land uses of wetland areas. It provides criteria for the Planning Board to consider separately from the jurisdiction the Conservation Commission has under Massachusetts General Law Chapter 131 Section 40 (Wetlands Protection Act). In order to build within this district, a special permit must be obtained from the Planning Board. However, zoned wetlands do not encompass all of the land areas that the Conservation Commission may determine to be wetlands.

4.3.5 Wetlands

Roughly one-tenth of Burlington is composed of wetlands and deep water-bodies (Map 5). Table 6 lists the wetland types present in Burlington. Atlantic white cedar swamps also occur in Burlington but are very uncommon. From these figures, it can be suggested that the evergreen wooded swamps, wet meadows and Atlantic white cedar swamps are most rare locally and should receive special consideration on protection issues.

Table 6. Estimated Wetlands Types in Burlington

Burlington Wetland Types	% of all wetlands types
Deciduous wooded swamp	67%
Mixed types or complexes of wetland and waterbody	18%
Marshes	10%
Deciduous shrub wetlands	3%
Evergreen wooded swamps	1%
Wet meadows	1%

Source: MassGIS (2005)

Burlington’s Wetland Bylaw (Article XIV) aims to protect the wetlands, water resources, and adjoining land areas in the Town of Burlington by controlling activities deemed by the Conservation Commission as likely to have a significant or cumulative effect upon those resource areas. While the Wetland bylaw mimics the Massachusetts Wetlands Protection Act in its protection of freshwater wetlands, rivers, streams, ponds, and lakes, as well as any land under those waters or bordering on them, from alteration; the bylaw also gives the Commission jurisdiction to protect isolated wetlands and vernal pools. The regulations adopted under the Wetland Bylaw also require setbacks from wetlands, both bordering and isolated.

The protection of Burlington's water resources is a prime concern of the community, prompting the creation of such bylaws designed to further protect water quality and prevent flooding, while also safeguarding certain aspects of Burlington's natural environment. Many open space acquisitions in the

past have been related to water quality and wetlands protection, and these concerns should continue to be important factors.

The Wetlands Bylaw provides the Conservation Commission with two valuable enforcement tools that are not afforded to it by the Wetlands Protection Act: 1) the ability to hold performance surety, and 2) the ability to impose fines.

Performance surety is a proactive way for the Conservation Commission to encourage compliance with a permit. When issuing a permit for construction near a wetland, the Commission may require that an applicant submit a sum of money, to be held by the Commission, as a financial surety that conditions outlined in the permit will be adhered to. Upon the completion of the project, if no violations have occurred, the surety is returned to the applicant in full. If, however, the applicant did not comply with all of the standards in the permit, a portion, or all, of the surety will be forfeited.

Section 1.11 of the Wetlands Bylaw gives the Commission the authority to fine anyone who violates any of the provisions of the bylaw, or permit issued by the Commission. Fines may be issued up to \$300 per day per violation.

4.4 Vegetation

Vegetation in Burlington is typical of many eastern Massachusetts towns. A list of vegetation known to exist in Town is included in the Appendix C. Although this list does not include species richness information, it provides a base for understanding the Town's vegetation. There are varying ecosystems which support the species mentioned in Appendix C. In light of the fact that many vegetation types in Burlington are scarce due to abundant development, the large parcels of woodland, the few fields, and the rare wetland types are all ecosystems that should be seriously considered for protection through the future acquisition of open space.

4.4.1 Forests

Most of the forests in Burlington are second growth forests with immature trees and full undergrowth. Such habitats provide shelter and food for wildlife, and the vegetation variety provides valuable opportunities for nature study. There are a small amount of mature forests in town, which are excellent places for hiking trails because of the clear understory. Conservation areas with this kind of mature vegetation include Little Brook Conservation Area and Mill Pond Conservation Area which has some stands around the reservoir.

The largest protected woodland area in Town is the conservation land surrounding Mill Pond, which totals over 140 acres. Next in size are the 36- and 27-acre conservation areas at Little Brook and Sawmill Brook, respectively. Mary P.C. Cummings Estate contains woodlands and open fields. The largest unprotected woodland in town is the 270-acre Landlocked Forest located west of Route 3, which is Article 97 land, but not Conservation land. It is nearly entirely forested, except for an electrical transmission line easement which runs east-west through it.

4.4.2 Fields

There are very few fields left in Burlington that are not used for active recreation. Most of the land which was once farmed has either become forested or been developed. The one remaining active farm in Town, located at 82 Lexington Street, is a 7.09-acre parcel involved in the Chapter 61A program with the state. The largest remaining fields are on Mary P.C. Cummings Estate in the south part of Burlington, one of which has become a soccer field.

As field habitats continue to diminish, animals such as bluebirds that rely on these areas are finding it harder to locate essential habitat. Retaining both fields and forests in town will provide for greater biodiversity, particularly when they abut each other allowing animals to use the forest for cover while utilizing the fields as a food source. Fields can also provide scenic views and serve as a reminder of the agriculture that once was commonplace in Burlington. Increasingly, utility line corridors are becoming the modern-day equivalent of fields, and while these are neither scenic nor agricultural, they do provide useful habitat.

4.4.3 Wetlands

Burlington's wetlands are described in greater detail in Section 4.3.5 of this plan. Several kinds of wetlands are uncommon in Burlington and may deserve increased protection because of their rarity, including evergreen wooded swamps, wet meadows, and Atlantic white cedar swamps. The most common wetland type present in Burlington is the deciduous woody swamp, the canopy of which is typically dominated by Red Maple (*Acer rubrum*) with various other tree species present in lower densities, such as American Elm (*Ulmus Americana*), white pine (*Pinus strobus*), and eastern hemlock (*Tsuga canadensis*). The shrub layer of these wetlands is typically well developed and often features species such as sweet pepperbush (*Clethra alnifolia*), common winterberry (*Ilex verticillata*), highbush blueberry (*Vaccinium corymbosum*), northern arrow-wood (*Viburnum dentatum*), and speckled alder (*Alnus incana*). The understory of these deciduous swamps is often dominated by ferns, though can vary widely depending upon soil chemistry and sunlight availability. It is important to note that the Red Maple Swamps, of which Burlington has many, can function as important habitat for many vernal pool species in Massachusetts as many areas of these swamps flood seasonally and lack fish populations.

4.4.4 Endangered Species

Until 1993, the only endangered plant species in Burlington on file with the Natural Heritage and Endangered Species Program was from 1906 – the Lion's Foot (*Prenanthes serpentina*), a member of the sunflower family. In 1993 another endangered vascular plant, the Variable Sedge (*Carex polymorpha*) was discovered in Burlington by the late Marylee Everett, a former Conservation Commissioner. This population is one of only two known to exist in Massachusetts and thus, for its protection, specific information regarding the plant's location is confidential. Because of its rarity, it is also currently a candidate for the Federal endangered species list. Table 7 lists the threatened and endangered species in Burlington and their most recent observation date.

Table 7. Threatened and Endangered Species in Burlington

Taxonomic Group	Scientific Name	Common Name	Status	Most Recent Observation
Vascular Plant	<i>Carex polymorpha</i>	Variable Sedge	Endangered	2016
Vascular Plant	<i>Nabalus serpentarius</i>	Lion's Foot	Endangered	1906
Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	Special Concern	2013
Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	Special Concern	1998

Source: MA Natural Heritage & Endangered Species Program Online Viewer (July 2018)

4.4.5 Public Shade Trees

In the Town of Burlington the DPW Superintendent acts as the Tree Warden. Since the Town does not have a Tree Department, the duties of the Tree Warden are limited to the protection of Shade Trees.

The Highway Division has a small budget for Tree Care which is used for safety pruning as well as removal of diseased trees. Although the department receives many requests for tree removals with reasons given such as “excessive leaves”, none of these requests are granted unless the tree poses a safety issue or it is diseased.

4.5 Fisheries and Wildlife

Although much of Burlington has been developed, there is still a variety of fish and wildlife species found in the town. See Appendix D for a preliminary list of Burlington wildlife. This list was created by combining information from various sources including the 1996, 2005, and 2011 OSRPs, professional reports of wildlife sightings, and sightings reported by residents and Town staff.

4.5.1 Fish and Fishing

Fishing has been allowed at the Mill Pond Reservoir for many years, and the Recreation Department stocks the water body with trout each spring. Fishing permits are required and may be purchased by Burlington residents only. Each spring the town sponsors a Kids' Fishing Derby and provides fishing equipment for rent at a nominal fee. The Mill Pond Reservoir is man-made and thus originally had no biological community. In an attempt to develop a biological community and stabilize the lake, it was stocked with 2000-3000 largemouth bass, and as mentioned is stocked periodically with a variety of trout species including brown trout and rainbow trout. Other species found there include sunfish, bluegills, pickerel, eels and perch.

Butterfield Pond, located on the Burlington-Lexington border, also contains some of the species found in the Reservoir. Additional areas throughout town where fish may be found include Vine Brook and the ponds at the Arborpoint development on Wheeler Road.

4.5.2 Wildlife and Habitats

Burlington supports healthy populations of most suburban-adapted species found in Massachusetts. As Burlington becomes increasingly developed, care must be given to protecting and managing diverse habitat to support the wildlife population. Prime habitat areas located in Town include three large forested areas: the Mill Pond Conservation Area, Mary P.C. Cummings Estate, and the Landlocked

Forest. These areas consist of mostly secondary growth forest, although some mature stands are scattered throughout town. Mary P.C. Cummings Estate also contains the largest field in town.

Additionally, Burlington has numerous small streams and wetlands. The largest protected wetland area is the well fields around Vine Brook in the southwestern portion of town. The only access to this area is via a trestle bridge, open to Town workers with limited public access, providing particularly good habitat for those species that do not adapt well to human interaction.

Burlington is also home to many vernal pools, a unique wetland type that does not contain water throughout the year, and therefore contains no fish. Certain species, including the wood frog, spotted salamander, and fairy shrimp, depend on vernal pools for reproduction and survival. It is a goal of the Town to work towards identifying and certifying more vernal pools in an effort to expand on environmental education opportunities and improve natural resources protection measures.

Roads and development have fragmented many of the habitats mentioned above. For example, although Mill Pond Conservation Area and the Sawmill Brook Conservation Area are within minutes of each other, Mill Street and the houses on either side of it separate the two properties. Most of the open space in Town is bounded by heavily traveled roads that effectively prevent movement between these lands. There are few wildlife corridors within town and those known corridors in Town are unprotected. However, Mary P.C. Cummings Estate borders protected open space in the City of Woburn known as Whispering Hill. Additionally, the Landlocked Forest is adjacent to protected open space in Lexington and there is an effort to connect more green spaces along the West Lexington Greenway.

The most extensive wildlife corridors known in Burlington are the corridors owned or restricted by Eversource for utility lines. While these lines are not primarily managed for wildlife, they still provide cover and food for numerous species as well as a mostly undeveloped and somewhat natural connection between different habitat areas. The fact that vegetation in the corridors is kept immature through frequent cutting and herbicide spraying helps some species but makes no provisions for others. Acquiring and permanently protecting corridors for wildlife habitat purposes in strategic locations throughout town is an important goal. These corridors could double as hiking or biking paths, thereby increasing passive recreation opportunities as well.

Diminishing habitat for local wildlife has most likely led to an increase in human-wildlife interactions in previously uncommon areas (i.e. residential areas). Wild turkeys, coyotes, red foxes, and whitetail deer are more common in residential neighborhoods. A black bear wandered around the Third Avenue area for several days in 2018. These more adaptable animals are learning to survive in suburban neighborhoods (i.e. using trash bins and ornamental landscaping as a food source), a concern as these behaviors will be taught to future offspring. See Section 4.7 for more information.

Burlington's Wildlife Inventory can be found in Appendix D.

4.6 Scenic Resources and Unique Environments

Scenic resources and unique environments contribute to the Town's character. These include scenic landscapes, major characteristic or unusual geological features, historic and cultural resources, archeological sites, important waterbodies, critical habitat, and other unique features.

The town has no unique geological features, but there are many places in Burlington that are integral to the Town for their scenic values, including historical sites and conservation areas. The most significant conservation areas, which are described in more detail in Section 5.2.2, are Sawmill Brook, Little Brook, Mill Pond, and Vine Brook. Below are descriptions of additional areas that carry significance because of their significant contributions to the overall character of the Town. Map 6 shows the areas which contribute to the community's character.

Mary P. C. Cummings Estate

140 acres of land along the town's southern border with Woburn is known as Mary P. C. Cummings Estate. The land was bequeathed to the City of Boston in 1929 by Mary Cummings, whose will stipulated that the land would forever be used as a "public pleasure ground." Starting in 2019, the property is managed by The Trustees (formerly Trustees of Reservations).

Landlocked Forest

Located to the southwest of Route 3, this 270-acre woodland is the largest natural area in town. It contains a number of wetlands, provides excellent wildlife habitat, and is crossed with hiking trails that connect to trails in Lexington and Bedford. A "friends" group, The Friends of the Landlocked Forest, actively works to improve trails and access and to educate Burlington residents about this land.

Mill Pond Reservoir

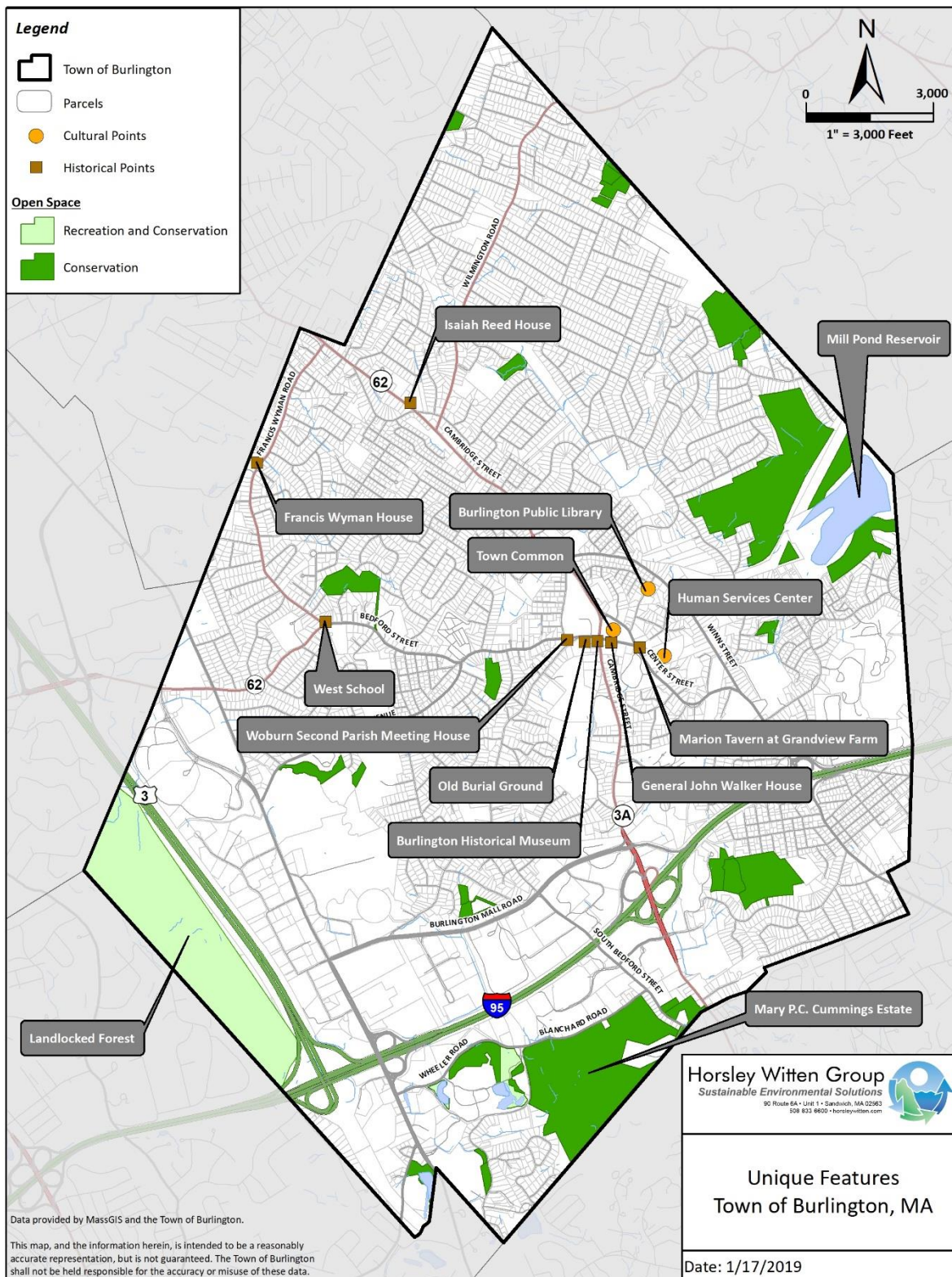
Surrounded by the largest conservation area in Burlington, the Mill Pond Reservoir is one of Burlington's most visited open spaces. The Mill Pond Conservation Area includes over 140 acres of rolling and steep terrain with marked and unmarked trails crossing the property. The reservoir serves as one of Burlington's drinking water supplies and is the largest area of open water in Town.

Town Common

The Town Common area is the historical and cultural heart of Burlington. The area encompasses the Town Common and Simonds Park, which together are believed to have functioned as a New England town common since the 17th century. The area around the Town Common includes 19 historic properties. The buildings identified as a potential historic district are mostly wood frame construction and represent a good mixture of the 18th, 19th, and early 20th century buildings in the Colonial, Greek Revival, Transitional Greek Revival and Italianate, Colonial Revival, Bungalow, and Modern Styles.

Hens and Chickens Tavern / John Wynn House

The John Wynn House—also known as the Hens and Chickens Tavern of Colonial days—ranks among Burlington's most remarkable historic architectural treasures. The structure is Burlington's only 18th century Georgian Gambrel mansion, as well as a rare, surviving Colonial tavern and farm property. The 1730s construction date makes it one of the oldest known historic structures in Burlington.



Map 6. Unique Features

Isaiah Reed House

Built circa 1770, this is one of Burlington's finest historic residential properties. This property features a pair of off-set, parallel, two-story, wood framed buildings, with a detached barn set back from the east side of Chestnut Avenue. The street survives as an abandoned and renamed portion of the Colonial Cambridge Street.

Major General John Walker House

The Major General John Walker house is a typical New England Colonial Style house, with an outbuilding and attached barn. The old Walker homestead is thought to have been built as a new home for John Walker and his father, Joshua Walker, between 1770 and 1780.

Burlington Public Library

After determining the needs of Burlington's residents for a larger library facility, Town Meeting in 1964 approved financing for the purchase of a 1.5-acre site on Sears Street and the construction of a new library. Construction of the building began in June of 1967, and the new library opened for business on September 18, 1968. After nearly 30 years of heavy use, the building was showing its age, and in 1993 Town Meeting voted to approve funding for additions and renovations to the building, which also did not comply with current building and accessibility standards or size recommendations. Today, the Burlington Public Library continues to strive to meet the information needs of almost 25,000 residents. In 2017, it had a total circulation of 249,475 items, with 98,864 physical materials and 31,618 electronic materials. In 2018, there were had 451 Youth Services programs with 9,709 attendees and 127 adult programs with 1,554 attendees.

Marion Tavern at Grandview Farm

Marion Tavern at Grandview Farm is one of Burlington's principal architectural landmarks. This site has special significance as the Town's only surviving 19th century connected-farm complex. Conceived around 1840, the Marion building originally served as a stage tavern and halfway house to the coach route which passed through town. Its highly-visible location contributes greatly to the Burlington's character and is the historical cornerstone of the Town Common.

In 1999, the owners of the Marion Tavern initiated a process to develop an apartment complex at the site. Town citizens began the "Save the Farm" movement to counteract this, and after a lengthy and complicated negotiation process, the Town settled a land swap with involved parties. As a result, the Town acquired the six acres of the property along with its associated buildings. The Town restored the Tavern and now uses it for meetings and functions.

The Burlington Historical Museum

The Burlington Historical Museum building was originally erected in 1855 as the Center School, a grammar school. From 1897 until 1969, it served as a public library. The building was recently restored and contains many artifacts of historical significance. Murals painted by local artists Donald Gorvette and Jeffrey Weaver, which depict local history, are particularly noteworthy.

Old Burying Ground

Benjamin Johnson gave this tract of land to the Second Parish in 1769 for use as a burying ground. At that time the land had already been used for this purpose for 40 years or more. It contains some of the oldest gravestones in the area, with some dating back to 1736.

Woburn Second Parish Meeting House

This building, now the Church of Christ Congregational, was erected in 1732 and is included on the National Register of Historic Places.

The West School

Built in 1794, this schoolhouse is one of a group of five that served the Town of Burlington until the Union School was built in 1898. It was originally located in what is now Simonds Park, and in 1839 was moved to its present location. In the 1990s it was completely restored through the efforts of the Burlington Historical Society.

Francis Wyman House

One of the three oldest houses in Massachusetts, the Francis Wyman House has been designated a National Landmark and is the oldest house standing in Burlington. It was built in 1666 to serve as a garrison house to which farmers in the vicinity could flee in case of Indian attacks. The house has been restored by the Francis Wyman Association and is also listed on the National Register of Historic Places.

Archeological Sites

In addition to the buildings listed above, the Massachusetts Historical Commission (MHC) has identified one known area of prehistoric archaeological resources. In order to protect the area from possible vandalism or theft, its location is protected from disclosure.

It should be noted that a complete Town survey of potential archeological sites has not been carried out. The Massachusetts Historical Commission specifically states that their information is incomplete. If the Town becomes aware of additional historical sites or has a concern about a site-specific development proposal, the Massachusetts Historical Commission should be contacted.

4.7 Environmental Challenges

The environmental problems encountered in Burlington reflect its highly developed status. There are four chief environmental issues that could impact open space and recreation in Burlington: hazardous waste, chronic flooding, over-development, and nonpoint source pollution. Environmental equity is also explored in this section, as ensuring equal access to natural areas in such a densely-developed community is certainly a challenge for Burlington.

4.7.1 Hazardous Waste, Brownfield Sites, and Landfills

According to the EEA, as of July 2018, there were 253 locations in Burlington where a release of oil and/or hazardous materials has occurred. The release locations are at varying stages of compliance as defined by the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000). Of those 253 locations, 154 have achieved Response Action Outcome (RAO) Compliance Status, indicating that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were

eliminated. Of the remaining 99 site locations, two involved response actions that resulted in no further action being required, 29 have down gradient property status, and 68 locations are sites where assessment and clean-up activities are on-going. Of those 68 locations, 19 currently have active remediation systems in operation for the purpose of achieving a permanent solution.

The Town of Burlington Water Department conducts regular groundwater sampling and analysis of the public wells and surrounding groundwater monitoring wells. In addition, the Burlington Board of Health enforces Burlington's Control of Toxic and Hazardous Materials Bylaw. The purpose of the local bylaw is to protect existing and potential groundwater recharge areas, surface water areas, and the community from exposure to toxic and hazardous materials. The bylaw requires that every owner of a commercial or industrial establishment storing toxic chemicals and/or hazardous waste in quantities greater than 220 pounds, or 28 gallons, comply with the requirements of the bylaw, which include storage practices, annual inventory registration, and inspection requirements. In addition, residents can prevent potential hazardous material releases by continued mindfulness of the potential of leaking home heating oil from above ground and underground storage tanks and by participation in household hazardous waste collection events.

Historical releases and the possibility of future releases of oil and hazardous materials within Burlington's Aquifer District are of particular concern. The Massachusetts Department of Environmental Protection (DEP) Source Water Assessment Program (SWAP) rates the potential for a municipality's drinking water source, within an assessment area, to become contaminated. According to the 2003 SWAP report for Burlington, due to land uses and activities within its recharge area, the relative susceptibility rating for Burlington's drinking water wells was high.

Acquiring and managing open space, particularly in Vine Brook watershed areas, has the potential to reduce the threat of oil and hazardous material releases to Burlington's water supply system. Wetlands located around drinking water sources would be especially valuable. An educational program about the hazards associated with underground storage tanks may also be useful.

4.7.2 Chronic Flooding

Drainage in Burlington is complex as the town is at the top of three watersheds. Vine Brook in western Burlington is in the Shawsheen River Basin, as are Longmeadow Brook and Sandy Brook. The Ipswich River and Sawmill Brook in northeastern Burlington are in the Ipswich River Basin; and Little Brook in southeastern Burlington is in the Mystic River Basin (see Map 4). Flooding is a persistent problem, as 7.5% of the Town is in 100-year flood zones. Despite their floodplain locales, development was not deterred along streams in these areas, and many nearby residences' basements and lawns periodically flood during heavy rain events or exceptionally wet seasons, causing concern and frustration. The Town works to lessen flooding by removing obstructions and debris buildup each summer as part of the Stream Cleaning program. To further address this issue, the Town hopes to acquire stream-abutting land and wetlands whenever possible to add to their open space network.

4.7.3 Development Impacts

Burlington is nearly at build-out, and the ramifications from such development must be taken into consideration. It is especially important to consider the type of development when speaking to over-development issues. Beyond residential areas, the Town contains many commercial/institutional properties: a large mall, hospital, various strip malls, and many retail stores, corporations, and restaurants. These uses bring with them environmental concerns such as trash and litter, noise and light pollution, stormwater run-off, and congestion and air quality issues related to high traffic volumes.

However, the over-development issue central to this report is the diminishing open space available in Burlington. This presents quality of life issues for the residents, as well as the local wildlife. Native wildlife is being forced from their natural habitats because of direct habitat loss and habitat fragmentation. Further, local biodiversity is threatened as many species cannot adapt to developed environments. One animal that can adapt to a developed environment is the coyote. A shy animal that typically avoids contact with people, the coyote is being forced into residential neighborhoods due to development. As a generalist species capable of adapting to suburban environments, the coyotes' presence has greatly risen over the past decade. These animals are highly adaptable, and can find the food, water, and shelter needed for survival in suburban environments. Thus, their populations are seen to thrive while many others become extinct. To offset such effects, the few remaining opportunities to protect natural areas in Burlington must be seized.

4.7.4 Nonpoint Source Pollution

Nonpoint source pollution, such as runoff contaminated by pesticide use, construction, or auto maintenance, is difficult to trace or control and is therefore becoming an increasingly large problem. An inventory done by the Massachusetts Division of Water Pollution Control found that approximately 70% of rivers and coastal waters and 100% of lakes were affected by nonpoint source pollution. Since Burlington's streams enter rivers that provide drinking water to other towns, pollution from nonpoint sources could have an especially serious impact.

Nonpoint source pollution is controlled by methods called "Best Management Practices" (BMPs). Examples would be installing detention/infiltration basins, reducing applications of pesticides and herbicides, and properly disposing of used motor oil and other household chemicals. Because these methods are often applied on a small-scale basis, they are difficult to enforce and are only effective upon large-scale adoption by the public. BMPs have been required for new developments in town over the past several years, including the installation of stormwater filtration and treatment systems and installation of stormwater detention basins to allow fine particulate materials to settle out of stormwater and prevent the deposition of silt in water bodies in town.

In the winter of 2009-2010, the Burlington Recreation Department commissioners and staff made a commitment to use only organic materials and fertilizers to maintain all town-owned fields. Enhancements will continue in order to develop the best possible parks and playing fields, both for the athletes and the water supply.

Wetlands and floodplain areas are essential to the mitigation of nonpoint source pollution. Therefore, wetlands and associated uplands would be especially useful acquisitions in the mitigation of nonpoint source pollution for the Town and neighboring communities.

4.7.5 Erosion and Sedimentation

Erosion and sedimentation pose significant problems in Burlington, including impairing water quality and flow in lakes, ponds, streams, rivers, wetlands, and groundwater; contaminating drinking water supplies; altering or destroying aquatic and wildlife habitats; increasing flooding; and overloading municipal catch basins and storm drainage systems.

Burlington's Erosion & Sedimentation Control Bylaw (Article XIV, Section 6), administered by the Conservation Commission and the Planning Board, requires that any land disturbance greater than 10,000 square feet have an Erosion & Sedimentation Control permit. This permitting process requires significant planning with regards to controlling and preventing erosion and sedimentation associated with land disturbance. Permit applications must include a Stormwater Management Plan, an Erosion and Sedimentation Control Plan, and an Operation and Maintenance Plan for each project site. While this permitting process works well to lessen erosion and sedimentation during construction activities, the effect on long-term maintenance is limited.

Road sand, used heavily during the winter months, was a primary source of sedimentation. It was discontinued in Burlington in 2012. The Stream Cleaning Program run by the Engineering Department, which permits limited use of a Vactor truck, continued to remove the accumulated road sand within Burlington's streams and rivers. A more rigorous maintenance plan and improved stormwater management systems would greatly reduce sedimentation in town. Retrofitting stormwater conveyances with "best management practices" wherever possible, will certainly help to lessen the degradation of our streams and rivers.

4.7.6 Forestry Issues

There are no forestry operations for timber harvest in the Town of Burlington. Forest management, therefore, consists of monitoring ecological health within conservation areas, which Conservation Department staff does as part of their regular land management activities. According to the Eastern Forest Threat Assessment Center, there are 190 identified threats to Massachusetts forests falling into the broad categories of invasive species, insects, diseases, climate, loss of open space, unmanaged recreation, pollution, and wildland fires.

The most often reported and observed threat to Burlington's forests is unmanaged recreation, specifically the use of off-road vehicles (ORVs) on town conservation land. The Town of Burlington does not permit the use of off-road vehicles on Town conservation areas, though enforcement proves to be difficult for numerous reasons. The intentional removal of vegetation, increased erosion and sedimentation, and compaction of soil related to this unauthorized activity continues to be the most serious land management issue in Town.

Another significant threat to Burlington's forests is the threat of invasive species. Invasive plant species are currently unmanaged in Burlington, though Conservation Staff are looking to implement an early detection management plan for Town conservation areas. Although no complete survey has been conducted, the most often encountered invasive plant species in Burlington's conservation areas are: Oriental Bittersweet (*Celastrus orbiculatus*), Autumn olive (*Eleagnus ubellata*), Multiflora rose (*Rosa multiflora*), Norway Maple (*Acer platanoides*), Garlic mustard (*Alliaria petiolata*), and Glossy buckthorn (*Frangula alnus*). The Tree of Heaven (*Ailanthus altissima*) has also been noted in Town. Conservation staff also monitors for damaging insects such as the (observed) Hemlock wooly adelgid (*Adelges tsugae*), (observed) Browntail moth (*Euproctis chrysorrhoea*), and (not present) Asian Longhorn Beetle (*Anoplophora glabripennis*).

4.7.7 Environmental Equity

Equal distribution of Town services is vital to the success and health of a Town's community. Ensuring equal access for all Town residents includes not only access to schools, health facilities, and safety services but also access to public lands and natural areas. Proximity to preserved natural spaces has been shown to increase physiological, psychological, and sociological well-being and these are benefits that all Burlington residents should enjoy. Further, it is important that the Town ensures that no part of the population is disproportionately exposed to an unhealthy environment, such as would cause health hazards or concerns. This issue of environmental equity informs Burlington's decisions with regards to open space planning as is evidenced by the well-distributed protected open space in Town.

Particular attention is paid to neighborhoods throughout the Commonwealth identified as EJ communities, which often suffer environmental inequality. Environmental justice is based on the principle that all people have a right to be protected from environmental pollution, and to live in and enjoy a clean and healthful environment. Environmental justice is the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits.

As noted in Section 2.3, the Massachusetts Environmental Justice Policy defines EJ communities as "those segments of the population that EOEa has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources. They are defined as neighborhoods (U.S. Census Bureau census block groups) that meet one or more of the following criteria:

- The median annual household income is at or below 65% of the statewide median income for Massachusetts; or
- 25% of the residents are minority; or
- 25% of the residents are foreign born; or
- 25% of the residents are lacking English language proficiency."¹⁴

¹⁴ <https://www.mass.gov/service-details/environmental-justice-policy>

Burlington has growing Indian and Arabic communities. According to the ACS, 15% of the population is Asian alone, a figure driven by people from India. International immigration is expected to continue to contribute to Burlington's population. The concentration of Indian-born residents in two neighborhoods places Burlington as one EJ communities within the Commonwealth, wherein that population meets two of the four criteria for EJ: 25% or more of the residents are minority and 25% or more of the residents are foreign-born.

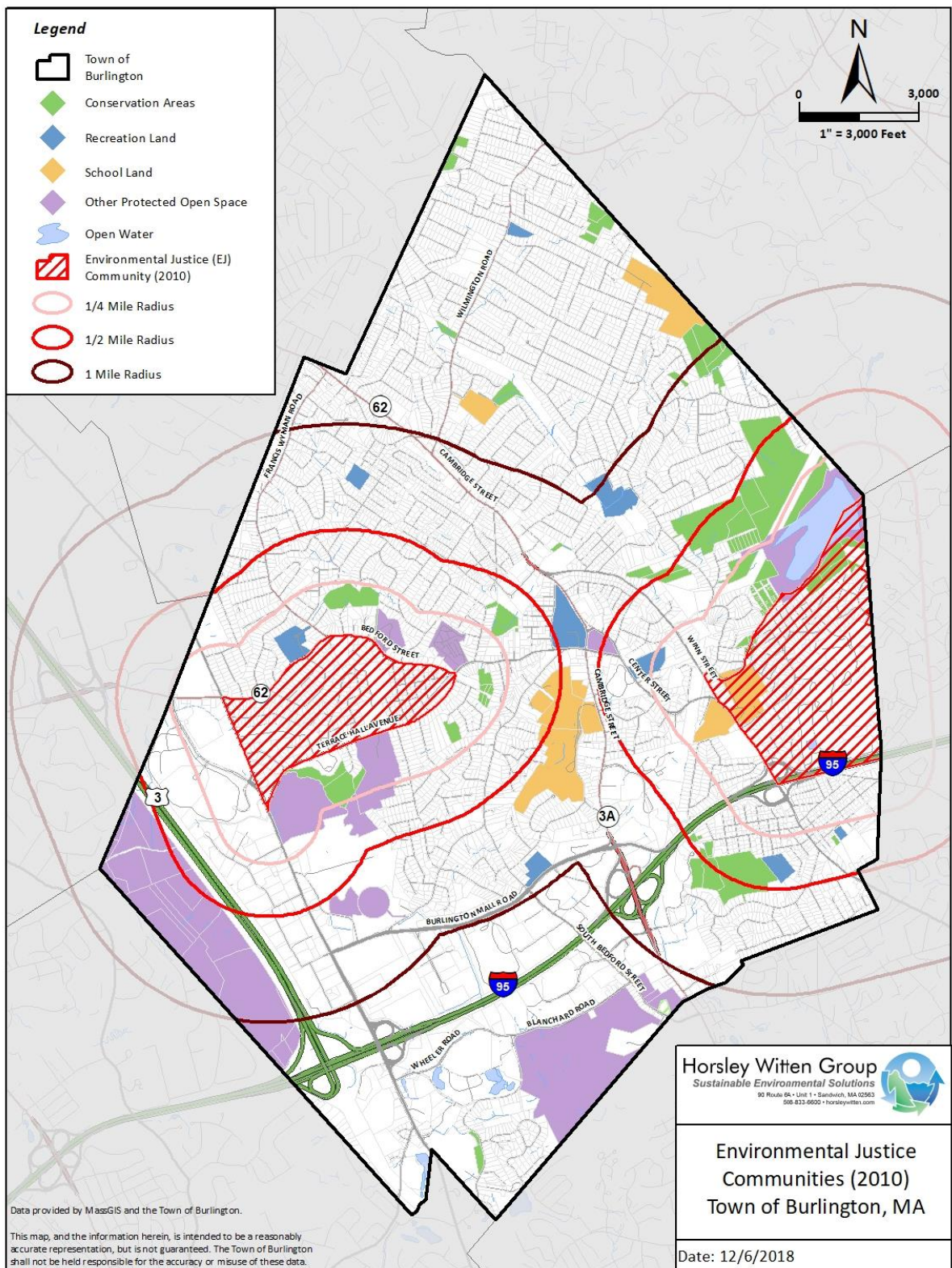
There are two locations of EJ populations in Burlington with one neighborhood in the eastern central part of Town and the other in the western central part of town. Both areas have a proportion of foreign born residents exceeding 25%. They are presented in Map 7. Area A (the western EJ population) is located off Middlesex Turnpike and Terrace Hall Avenue (primarily centered around the Lord Baron Apartments). Area B (the eastern EJ population) is bordered on the south by Route 95 in the vicinity of Peach Orchard Road (primarily centered around the Kimball Woods/Kimball Court multifamily housing complex straddling the Woburn city line).

Area A has a total population of 2,143 persons. The proportion of foreign-born individuals in this area is 34.92%; the household income in this area is \$70,033 annually, and just over 93% of residents speak English. The next most commonly spoken languages are a collection of Indo-European languages, Gujarati, Hindi, Tamil, Telugu, and Kannada. Area B has a total population of 2,400 persons. The proportion of foreign-born individuals in this area is 30.63%; the household income is \$61,510 annually, and just over 97% of residents speak English. As in Area A, next most commonly spoken languages are the Indo-European languages of Gujarati, Hindi, Tamil, Telugu, and Kannada. In general, households in these two EJ areas earn near the median household income for Burlington residents and do not disproportionately bear the burden of proximity to contaminated sites.

The Town has made accommodations for this growth including hiring an interpreter in the Council on Aging who is able to serve as interpreter to the growing Indian population. In addition, impacts to recreation include increasing demand for sports like cricket, and the Parks and Recreation Department has included consideration of these sports in sizing multipurpose fields around town.

The EJ neighborhoods are in close proximity to many of the Town's open spaces, as shown in Table 8. Generally, a quarter mile walk takes about eight minutes, a half mile walk will about 10 to 12 minutes, and a one mile walk about 20 minutes. These distances are also shown on Map 7.

Burlington can play an important role in advancing environmental justice through land use planning that encourages public participation and through regulatory powers to obtain development results that balance the benefits and burdens of growth. Health risks for Burlington residents can be minimized through targeted environmental enforcement and environmental quality can be improved through initiatives that include reduction of pollutants and emissions, remediation and redevelopment of contaminated land, and investment in parks and open spaces.



Map 7. Environmental Justice Communities (2010) and Open Space and Recreation Resources

Table 8. Distance between Open Space and Recreational Resources and EJ Communities.

Resource	Distance from EJ Boundary
Area A (Western EJ Community)	
Conservation Areas	
Vine Brook CA & Well Fields	Bordering
Marion Road CA	Bordering
Chadwick CA	< ½ Mile
Sandy Brook CA	< ½ Mile
Raymond Road CA	< ½ Mile
Longmeadow Brook CA	< 1 Mile
Forest Field CA	< 1 Mile
Recreation Areas	
Wildwood Park	Bordering
Town Common	< ½ Mile
Simonds Park	< ½ Mile
TRW Park	< 1 Mile
Regan Park	< 1 Mile
Other Protected Open Space	
Landlocked Forest	< ½ Mile
Area B (Eastern EJ Community)	
Conservation Areas	
Lt. Litchfield CA	Within
Rock Pond Brook CA	Partly within
Mill Pond CA	Partly within
Forest Field CA	< ½ Mile
Sawmill Brook CA	< 1 Mile
Erin Lane CA	< 1 Mile
Raymond Road CA	< 1 Mile
Little Brook CA	< ½ Mile
Recreation Areas	
Town Common	< ½ Mile
Overlook Park	< ½ Mile
Wildmere Park	< ½ Mile
Rahanis Park	< 1 Mile
Simonds Park	< 1 Mile

5 Inventory of Lands of Conservation and Recreation Interest

Broadly defined, open space is public and privately-owned undeveloped lands which are important resources for a variety of reasons including conservation, recreation, agriculture, or simply because of their scenic qualities and their contribution to the overall character of the town. Such space may provide opportunities for active or passive recreation and may contain forests, farmland, old fields, floodplains, wetlands, scenic vistas, or historical sites. These areas are invaluable and irreplaceable resources which bring environmental, social, and economic benefits to the community. As such, it is critical to protect and sustainably manage what open space remains for current and future generations.

There are varying levels of protection, from permanent to temporary, for open space. A property is considered legally protected open space when it falls under Article 97 of the Articles of Amendment of the Massachusetts State Constitution. In Burlington, lands protected by Article 97 are typically those owned by the Town and under the control of the Conservation Commission, Recreation Commission, Water Department. Land may also be article 97 land owned by non-profit organizations or state and federal conservation agencies, though there are no such lands in Burlington. More specifically, Article 97 lands are those that have been designated for natural resource purposes, including conservation, forest, water, and agriculture. As the highest level of open space protection available, the State has made it is difficult to convert Article 97 land for other uses; to do so involves multiple time-consuming actions, including the requirement that the matter pass the Massachusetts legislature by a 2/3 vote.

Private lands can also be permanently protected if there is a deed restriction by a Conservation Restriction, Agricultural Preservation Restriction, Historic Restriction, or Wetlands Restriction. Lands purchased for general municipal purposes, and in many cases school grounds, are not protected by Article 97.

Map 8 shows public recreation resources, public school areas, and public conservation resources, followed by detailed information about these resources as well as private parcels of recreation or conservation interest. Several of these areas are already protected open space, while others are being considered for future acquisition or other protection measures.

5.1 Private Parcels

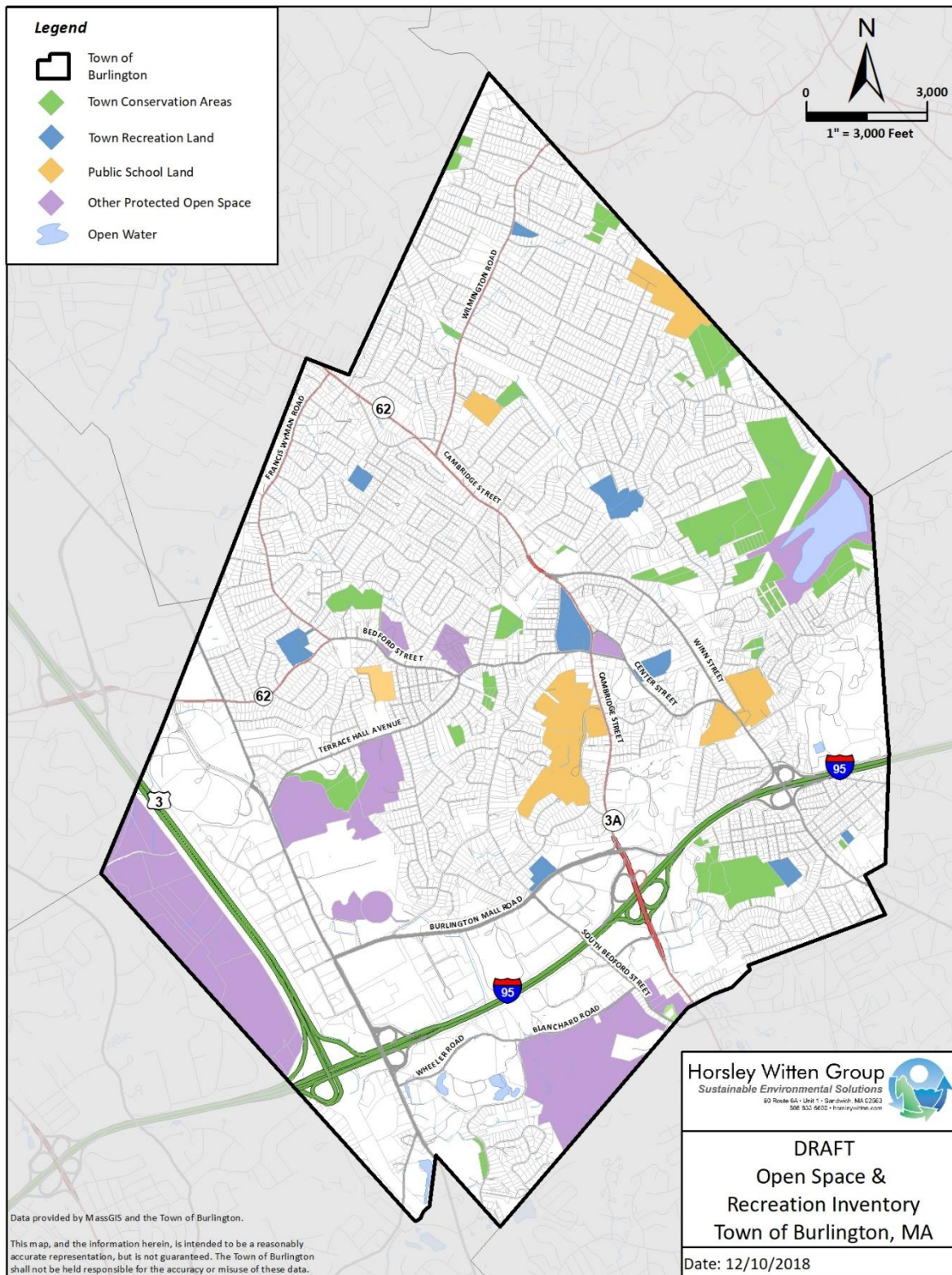
5.1.1 Recreational Interest

The Burlington Swim and Tennis Club

Located on Center Street a short distance from the Human Services Center, the Burlington Swim and Tennis Club is a non-profit corporation that operates a swimming pool, three tennis courts, and a function building. The Town may wish to consider the possibility of purchasing or leasing this facility if the opportunity arises.

The Mitre Corporation Fields

Located at the intersection of Middlesex Turnpike and Bedford Street, Mitre owns two softball fields, which are used by the Town for Recreation Department softball programs, Little League baseball games, and corporate softball leagues. The Corporation's agreement with the Town stipulates that the field be maintained by the Recreation Department. Because of the great demand for athletic fields in Burlington, the Mitre fields provide the Town an opportunity to serve groups that could not otherwise be accommodated. These fields, however, are currently not in use due to the construction of the Mitre Link, a road construction project.



Map 8. Open Space and Recreation Inventory

5.1.2 Conservation Interest

Sawmill Road Parcels

There are six privately owned parcels adjacent to Sawmill Road that are of conservation interest in terms of their relation to the Sawmill Conservation area. The largest is 2.1 acres, and their combined area is 9.475 acres.

Chapter 61A Property

There is one parcel on Lexington Street that has Chapter 61A agricultural status that the Town may wish to acquire for open space or parkland.

Parcels adjacent to Conservation Lands

Any undeveloped lands that become available adjacent to conservation areas should be considered for acquisition.

5.2 Public and Nonprofit Parcels

There are no open space parcels in Burlington owned and managed by state or federal government or by non-profit organizations other than The Trustees at Mary P.C. Cummings Estate. All parcels included below are owned and managed by the Town of Burlington with the exception of those parcels protected by Conservation Restriction with ownership as indicated.

5.2.1 Public Recreation Resources

The lands designated as recreation lands in the accompanying chart are owned or managed by the Town of Burlington and maintained by the Recreation Commission (also see Appendix E and Map 8). Each of the sites listed in Table 9 offers active recreation facilities.

Table 9. Public Recreation Resources in Burlington

Name & Location	Acres	Facilities	Current Use	Description
Simonds Park (Bedford Street)	22	1 lighted softball field, 2 lighted basketball courts, 1 wading pool, 1 program building, playground equipment, picnic area, accessible restrooms, refreshment stand, skate park, street hockey court	Little League baseball, Babe Ruth baseball, girls softball, tennis lessons, basketball leagues, day camps, family outings, picnicking, skateboarding, street hockey	A highly developed park in the center of Burlington, Simonds Park is the Town's largest and most-used recreation facility. It is used by people of all ages for a wide variety of structured and informal recreation activities.
Overlook Park (Edgemere Avenue)	20	Playground equipment, park playhouse, maintenance garage, 1 basketball court, picnic area	Pick-up basketball, family outings, picnicking, adult community theater, children's theater programs, neighborhood program	This former U.S. Army Nike missile site is now used by the Town as a public park, headquarters for the Recreation Department's maintenance division, and as the home of the Burlington Players, a non-profit community theater organization.

Name & Location	Acres	Facilities	Current Use	Description
Rahanis Park (Mill Street and Patriot Road)	15	8 tennis courts, 2 softball fields, 1 basketball court, 2 multi-purpose fields, playground equipment, 1 sand volleyball court, picnic area with tables, handicapped accessible bathroom facility	Softball, youth soccer, tennis lessons, high school tennis, family outings, picnicking, summer playground program, pick-up basketball	Rahanis Park is an excellent facility which draws Town-wide use for a great number of programs and activities. The development of this park has helped to take some of the pressure off of Simonds Park, Burlington's only other park that attracts people from throughout the community.
Human Services Center Fields (Center Street)	10	1 major baseball field, 1 softball field, 1 multi-purpose field	High school baseball, soccer, and lacrosse; youth soccer, Babe Ruth baseball, youth softball	These fields are located on Center Street behind the Human Services Center. Burlington High School uses the facilities for freshman baseball; the Burlington Baseball & Softball Association uses them frequently in the spring and summer; and lacrosse and girls field hockey are also played here.
TRW Park (Mall Road and Stony Brook Road)	7	2 baseball fields, playground equipment, 1 multipurpose field, picnic area with tables	Little League baseball, adult softball, youth soccer, family outings, picnicking	Located on Mall Road, this park is used primarily for Little League baseball, youth soccer, and as a neighborhood playground
Town Common (Cambridge Street and Center Street)	7	Band stand, picnic tables, water fountain and landscaped brick sitting area donated by Rotary	Summer movie series, large Town events including Truck Day, Celebrate Burlington Day, and Dare Day	The Town common is centrally located on Cambridge Street, and is surrounded by historic buildings and municipal facilities including the Town Hall, Fire Department, Police Department, and Post Office. Primary uses include Town events, and a picnic and relaxation area in nice weather.
Regan Park (County Road to Sumpter Avenue)	6	1 Little League field, 1 basketball court, playground equipment, activity shelter, picnic area with tables	Little League baseball, pick-up basketball, family outings, picnicking, summer playground programs	This is primarily a neighborhood park, which attracts Town-wide use only for Little League baseball games
Veterans Parks (Wilmington Road)	5.5	1 softball field, ½ basketball court, activity shelter, playground equipment, picnic area with tables	Baseball, softball, pick-up basketball, family outings, picnicking	This is primarily a neighborhood park.
Marvin Field (South Bedford Street)	4.5	Lighted softball field	Adult softball leagues, high school softball, corporate softball	This is Burlington's premier softball field, used for Burlington High School varsity softball and the Recreation Department's adult softball leagues

Name & Location	Acres	Facilities	Current Use	Description
Wildmere Playground (Wildmere Avenue)	3	Basketball court, playground equipment, picnic area with tables	Pick-up basketball, family outings, picnicking, play activities for young children, summer playground program	Located in the Winnmere section of Burlington, Wildmere playground is a neighborhood play facility used almost exclusively by children in the immediate area.
Rotary Fields (South Bedford Street)	1.7	Lighted softball field	Adult softball leagues, high school softball, corporate softball	Purchased from the Federal Government and developed with the help of the Burlington Rotary Club, this field is used for high school softball, Recreation Department softball leagues, and corporate softball.
Pathwood Tot Lot (Pathwood Avenue)	.5	Playground equipment, ½ basketball court, picnic area with tables	Pick-up basketball, play activities for young children, picnicking	This is Burlington's smallest recreation facility and is primarily used by young neighborhood children.

5.2.2 Public and Private Conservation Resources

Conservation areas are owned by the Town of Burlington and managed by the Conservation Department. All conservation areas are open to the public, although some do not have access points to date. Properties with Conservation Restrictions are not necessarily accessible to the public, though some have allowed for public access and trail easements. Table 10 lists both public and private conservation areas in Burlington.

Table 10. Public and Private Conservation Resources in Burlington

Name	Acres	Description
Mill Pond Conservation Area	140	Mill Pond Conservation area consists of land surrounding the town reservoir and forms the largest conservation area in Burlington. Numerous marked and unmarked trails run throughout, which are used by joggers, walkers, and mountain bikers. This land was originally acquired to protect the reservoir watershed, which remains its primary purpose. However, because of its size and the fact that it surrounds the only large open body of water in Burlington, it is the most well-known and used conservation area in town. It also has potential for wheelchair accessibility as the trail along the north side of the reservoir is fairly flat and wide.
Little Brook Conservation Area	36	With 36 acres, this is the second largest conservation area in Burlington. Much of this area is steep with low-lying wetlands in its western portion. There is also beautiful upland area in the central and eastern section of the site. Trails are open to the public here, but because it is less well known than the Mill Pond area, this site receives less use.

Name	Acres	Description
Sawmill Brook Conservation Area	27	Sawmill Brook Conservation Area is the third largest in Burlington and features woodlands, wetlands, and meadows. This property features Sawmill Brook, which forms the southern border for most of the parcel and attracts birds and other wildlife. There are also several trails through the property making this Conservation Area easily accessible and classes from the adjacent Fox Hill Elementary School frequently utilize this land for educational purposes. Also, the historic Clapp's Mill Site has 4 acres directly adjacent to the remnants of an historic mill and dam. A Tennessee Gas pipeline easement runs through this property and is clearly visible as a mowed area about 60-feet wide.
Vine Brook Conservation Area	22	The Vine Brook well field near the confluence of Vine Brook and Sandy Brook contains some of the most beautiful natural areas in Burlington. Because of abuse that occurred here in the past, this property was closed to the public. However, in the mid-1990s the town needed to gain access to a well (well #10) located in this wetland area. In 1997, after consultation with the Burlington Conservation Commission, an environmentally friendly wooden trestle bridge was constructed to provide Town entry. Although the area is still not open to the general public because it is a water supply, some groups who obtain special permission, such as educational groups, can use the bridge to view and enjoy the land.
Marion Road Conservation Area	15	The Marion Road Conservation has several acres of uplands and an extensive wetland system that provides significant flood storage and water quality enhancement. There is excellent diversity of native vegetation throughout the parcel (including a dozen large shagbark hickory trees – an uncommon species in Burlington) that provide valuable wildlife habitat. Hawks, owls, pheasants, foxes, woodchucks, and deer have all been spotted here. It also contains a well-used trail.
Pine Glen Conservation Area	6	A small parcel of land traversed by several brooks, the Pine Glen Conservation Area serves mainly to provide wildlife habitat and protect water quality. The Conservation Commission recently blazed a loop trail with stream crossings. This project was sponsored by the Department of Environmental Management Greenways Grant Program and allows for the adjacent Pine Glen School to use the land for educational purposes.
Sandy Brook Conservation Area	5	This conservation area is primarily wooded swamp along Sandy Brook. Because of the thick underbrush and wet ground, the property is not easily used for recreation. Its main functions are to protect water quality and provide flood storage.
Chadwick Conservation Area	3.78	This parcel contains a brook, wetlands and woodlands. Currently there are no marked trails in the Chadwick Conservation area.
Ipswich Conservation Area	3	Consisting primarily of boggy wooded swamp, this parcel also includes a rock peak. The site gets its name from the small stream that is the head of the Ipswich River that passes through a corner of the site. A large conservation area in Wilmington abuts the property.

Name	Acres	Description
Muller Road Conservation Area	3	This area is comprised of dry land donated to the town for conservation purposes. This parcel is primarily used by urban wildlife as it is under high-tension lines and in close proximity to the Middlesex Mall.
Rock Pond Brook Conservation Area	3	Most of this parcel consists of steep uplands, although a brook traverses the back portion of it. Current access to this site is through an unmarked right of way which is difficult to spot and very steep in places. Since this property is located near Marshall Simonds Middle School, a goal is to explore creating easier access and encouraging use of the land by school classes.
Longmeadow Brook Conservation Area	2	The primary purpose of this land is flood control and water quality protection. It includes a variety of vegetation growing along the steep valley around the brook. An abutting parcel of land, owned by the Town, could potentially provide better access to this site than the easement that is the current access point.
Fairfax Conservation Area	>1/8	Although the Fairfax Conservation Area is small, the contribution it makes as a protected habitat corridor for wildlife is immeasurable. This area allows organisms to travel safely between habitats and reduces the number of roadkill events.
Forest Field Conservation Area	10.7	This parcel of mixed uplands and wetlands is located along the Boston Edison power lines between Mill and Locust Streets. The combination of field, forest, and wetlands makes this a good area to find a diversity of flora and fauna. While there are few paths in the area, the power line makes for easy walking; however, there is no legal access to this site. Obtaining an access point is the first priority for this conservation area.
Lubber Brook Conservation Area	5.4	In addition to Lubber Brook, a number of small brooks and wetlands are present in this area. Although this makes walking difficult, such environment provides important wildlife habitat, flood storage, and water quality protection.
Litchfield Way Conservation Area	3.2	The benefits of this land include habitat for wildlife and flood storage protection.
Glen Cove Park Conservation Area	1.5	The parcels that make up the Glen Cove Park Conservation Area are located just upstream from the Sawmill Brook Conservation Area. These lands serve as wildlife habitat and provide drainage and flood control in the Sawmill Brook watershed.
Raymond Road Conservation Area	9	The largest parcel in this conservation area was acquired by the town in 2003 in lieu of foreclosure and subsequently transferred to the Conservation Commission in 2005. Two additional contiguous parcels were transferred to Conservation in 2006. Although there are some informal trails, much of this area forms the headwaters of Sandy Brook and there are extensive wetlands and several small streams that feed into and form Sandy Brook.
20 Michael Drive Conservation Restriction (CR)	0.42	This CR was established in 2004 along with two other CRs on Michael Drive when this road was developed.
22 Michael Drive CR	0.48	This CR was established in 2004 along with two other CRs on Michael Drive when this road was developed.

Name	Acres	Description
24 Michael Drive CR	1.13	This CR was established in 2004 along with two other CRs on Michael Drive when this road was developed.
Stone Brook Farms CR	~1	This small CR, established in 1993, is for the southwest corner of the Stone Brook Farms property in the center of Burlington.
101 Cambridge Street CR	0.46	Comprised primarily of wetlands, this CR abuts 3.7 acres of currently undeveloped land along Cambridge Street and was established in 1993.
95 Lexington Road CR	0.46	Established in 1993, this CR, which applies to a single-family house lot, is entirely within Zone A FEMA floodplain for Vine Brook.
99A Wilmington Road CR	1.92	This CR applies to 1.92 acres of a single-family house lot in northern Burlington. Established in 1990, this property protects extensive wetlands as well as Zone II wellhead protection area.
Seven Springs CR	15.1	Along with the Arborpoint CR, this protects approximately 30 acres of open and vegetated wetlands around the multi-family housing complex in the southern part of Burlington developed in 2005.
Arborpoint CR	15.6	Along with the Seven Springs CR, this protects approximately 30 acres of open and vegetated wetlands around the multi-family housing complex in the southern part of Burlington developed in 2005.
5 Wall Street CR	0.07	This CR is a narrow strip of land that surrounds the end of pavement on Mountain Road and the last house lot on the north side of Mountain Road.
Network Drive CR	25.3	This CR contains Vine Brook, wetlands and floodplain and is situated between Middlesex Turnpike and the Middlesex Turnpike Extension.
Longmeadow Place CR	3.04	As part of the development of a senior housing complex on Burlington Mall Road, this CR was established in 1997. This parcel is primarily wetlands and floodplain storage associated with Longmeadow Brook.
4 Wilmington Road CR	~1.3	This CR was established in 1991 and encompasses a deciduous wetland at the corner of Wilmington Road and Cambridge Street.
Camp Cummings CR - Wilmington	7.96	This CR applies to a parcel of land in the neighboring town of Wilmington. It is included here as the Town of Burlington was the purchaser of the restriction. The property upon which this CR has been placed is a former Boy Scouts camp and is referred to as Camp Cummings.

5.2.3 Forestry, Agriculture, and Horticulture Interest

Although Burlington was once a primarily agricultural town, only one chapter 61 parcel remains: a 7-acre family farm located on Lexington Street. There are no other forestry, agriculture, or horticultural operations in town. If the one agricultural parcel were to become available in the future, the town should consider acquisition to fulfill demand for municipally owned and managed working lands, which is likely to increase with the expansion of multifamily residential units. Small-scale organic farming is an area of expressed interest and could provide hands-on educational opportunities for area residents.

5.2.4 Public School Parcels

The Town of Burlington owns and operates six public schools that provide a variety of outdoor athletic facilities for school sports programs, informal play, and Town recreation activities. All public school grounds and outdoor athletic facilities are maintained by the Recreation Department. The following list indicates the outdoor facilities available at each school.

Burlington High School

- Lighted artificial turf football stadium
- Two multi-purpose practice fields
- Lighted running track
- Softball field

Marshall Simonds Middle School

- Three Multi-purpose athletic fields
- Three basketball hoops (for informal play)

Fox Hill Elementary School

- Basketball court
- Playground equipment
- Softball field

Francis Wyman School

- Major baseball field
- Multi-purpose athletic field
- Playground equipment

Pine Glen Elementary School

- Multi-purpose field
- Little League baseball field
- Playground equipment

Memorial Elementary School

- Multipurpose field
- Playground equipment

5.2.5 Other Public Lands

There are two other large parcels of land within the Town's borders that have the potential to benefit the community's conservation and recreation efforts.

Mary P.C. Cummings Estate

Mary P.C. Cummings Estate (Mary Cummings Park), the 12th largest public open space inside of Route 128, consists of 166.5 acres of land in Burlington and 46.5 acres of land in Woburn. The land was left in trust to the City of Boston by Mary Cummings upon her death in 1927, whose will stipulated that the land be forever used as a "public pleasure ground." Some in Burlington remain concerned that some Boston officials seek to break the terms of the will in order to gain a more direct benefit for the City.

Most local officials and the Massachusetts Attorney General's Office believe, however, that the provisions of Article 97 of the Massachusetts Constitution would apply to any attempt to develop the property.

The Friends of Mary Cummings Park was founded in 2007 as a non-profit corporation with the mission to help keep the Mary P.C. Cummings Estate forever open as a public park and playground, to promote recreation consistent with the historic uses of the park, to promote the protection of wildlife habitat and watershed, and to seek and hold land or easements in its environs for this purpose. At the end of 2010, membership was at 662 members. Additionally, the Friends called for the land to be kept "forever open as a public pleasure ground" and it has been working to ensure the City of Boston continues to manage it as such. In 2019, The Trustees (formerly the Trustees of Reservations) formalized an agreement to manage the property on behalf of the City.

One of the Friend's recent notable accomplishments is successfully advocating for the sale of Whispering Hill Woods, a 75-acre piece of land that bisects the Mary P.C. Cummings Estate, to the City of Woburn. The woodland, which was owned by Northeastern University, was threatened by development. Through the work of the Friends of Mary Cummings Park and the support of Northeastern University students (Husky Environmental Action Team, HEAT), Northeastern University agreed to sell the land to the City of Woburn for conservation and watershed protection.

The Friends' promoted the park through appearances at regional events, such as the annual Woburn Lions Club Halloween Parade and the Boston GreenFest, and through its own annual photo contest. It has paid for and erected kiosks, built by students in regional technical schools, at park entrances on Blanchard Road in Burlington, Sylvanus Wood Lane in Woburn, and Rotary and Marvin Fields in Burlington. It has negotiated access and signage through the Quail Run Conservation Area to the south of the park, helped certify vernal pools, cleaned and maintained trails, and facilitated activities at the park with the Burlington High School and Cub Scouts, as well as other regional schools and groups. It won New England Grass Roots Environmental Fund grants for 2009 and 2010 and has helped support other groups in forming successful campaigns for the conservation of open space. In 2008, the Town rezoned Mary P.C. Cummings Estate from One Family Dwelling to Open Space, which limits use of the property to institutional- and recreational-type uses.

Landlocked Forest

The Landlocked Forest was originally taken by eminent domain in 1985 for water supply protection and conservation purposes. Because the purpose of the taking was for water supply protection and conservation purposes, the property is subject to the provisions of Article 97 of the Massachusetts Constitution. The property is between 250 and 270 acres of land on the west side of Route 3, bounded by Bedford, Lexington, and Route 128. In 2017, the land was rezoned from Industrial to Open Space, and partly in the Aquifer and Water Resource Districts.

The Friends of the Burlington Landlocked Forest was formed in the summer of 2008 to help protect and preserve this land and to increase public interest in and appreciation of the land. There are currently

several hundred Burlington residents in their database of interested supporters, as well as a number of residents from Wilmington, Woburn, Billerica, Bedford, and Lexington. Initially the group worked to educate the citizens of Burlington on the taking of the land under Article 97 of the state constitution for the protection of the town water supply and for passive recreation. A website was created in August, 2008, www.landlockedforest.com, to provide information on how to access the land and also included information on the history of the parcel and the kinds of wildlife found there. In the fall of 2008, the Friends of the Burlington Landlocked Forest organized a petition and gathered over 500 signatures from Burlington residents who wanted to reject the bid for the sale and development of this land. The group began leading walks in the forest, Boy and Girl Scouts began using the forest for activities, and accurate trail maps were developed showing the trail system created in 2009. Public use of the land continued to increase and, in the spring of 2010, a kiosk was built on Turning Mill Road in Lexington to mark the parking lot and entrance to the Forest. In the fall of 2010, the Friends received permission and began raising the funds to build environmentally sensitive boardwalks where the trail crosses the wetlands, further enhancing the accessibility of this parcel. Today, the group organizes events at the Forest and maintain the site as a natural and recreational asset to the community.

6 Community Vision

6.1 Description of Process

The OSRP update process began with formation of the OSRP Subcommittee. The Subcommittee was made up of Town department staff, including from the Conservation Department, Planning Department, Parks and Recreation Department, and Veterans Affairs Office/Americans with Disabilities Act (ADA) Coordinator, as well as members of the Conservation Commission, Planning Board, and Recreation Commission. The Subcommittee met monthly and meetings were open to the public.

Public opinion was collected in a variety of ways. Two public meetings were held to understand the current open space and recreational needs and opportunities of the community. These were supplemented the results of the 2017 Parks and Recreation Needs Assessment survey conducted by the Parks and Recreation Department, which focused on recreational resources. In addition, the Subcommittee distributed a second survey on line that focused on conservation resources and needs. It was also available in hardcopy at Town Hall and the library. Further targeted outreach was made to Burlington's large Indian community, which is considered an environmental justice population due to the limited English spoken by residents.

Throughout the process of updating the OSRP, cooperation and consultation was sought with multiple Town departments to gain an understanding of changes since 2011, including the review of environmental inventories, town policies and regulations, and improvements to infrastructure, amenities, and resources.

6.2 Statement of Open Space and Recreation Goals

The overall open space vision for Burlington is to improve the Town's current open space offerings to enhance quality of life for all residents and to expand opportunities for active and passive recreation throughout Town. Achieving this goal includes:

- Improving the quality of athletic fields and other recreation facilities
- Protecting and utilizing the remaining large tracts of land in Town that are currently unprotected or have limited protection
- Continuing to acquire and/or protect land for conservation, flood storage, and water supply protection
- Improving the transparency and communication between departments and to the community on open space and recreation issues

Ideally, Burlington will progress sustainably, meeting the habitability needs of the community, providing a safe, healthy environment and high-quality recreation programs and facilities. This should be realized while simultaneously encouraging smart growth planning for future residential and commercial development.

7 Analysis of Needs

Open space and recreational needs of Burlington were identified through a variety of sources, including the input of residents through outreach done as part of this update, as well as the 2017 Parks and Recreation Department Needs Assessment. Regional and state needs were gleaned from *MetroFuture*, the regional master plan of MAPC, and the Massachusetts State Comprehensive Outdoor Recreation Plan for the Commonwealth.

7.1 Regional and State-Identified Needs

7.1.1 *MetroFuture*

MetroFuture, the current regional master plan prepared by the MAPC, outlines 65 goals to help guide growth in the region. Goals specific to Open Space and Recreation Planning include the following:

9. The region's landscape will retain its distinctive green spaces and working farms.
22. Urban and minority residents will not be disproportionately exposed to pollutants and poor air quality.
23. All neighborhoods will have access to safe and well-maintained parks, community gardens, and appropriate play spaces for children and youth.
25. Most residents will build regular physical activity into their daily lives.

62. The region's rivers, streams, lakes, and ponds will have sufficient clean water to support healthy aquatic life and recreational uses.
63. The ecological condition of wetlands will improve, and fewer wetlands will be lost to development.
64. The region will retain its biodiversity, and will have healthy populations of native plants and animals, and fewer invasive species.
65. A robust network of protected open spaces, farms, parks, and greenways will provide wildlife habitat, ecological benefits, recreational opportunities, and scenic beauty.

There are 13 specific Implementation Strategies cited in *Metrofuture* to achieve the 65 goals referenced above. Elements of Strategy 7, "Protect Natural Landscapes" and Strategy 13, "Conserve Natural Resources" are undertaken in Burlington and demonstrate progress toward these goals, both individually and in cooperation with abutting communities:

- Plan for land preservation on a state and regional basis;
- Increase funding for priority land acquisition;
- Support private sector conservation initiatives;
- Adopt sustainable land use controls in less-developed areas;
- Increase the use and impact of Open Space Residential Design;
- Plan for sustainability;
- Conserve energy;
- Promote the use of renewable resources;
- Implement water/wastewater/stormwater utility "best practices" across the region;
- Promote local treatment and recharge of stormwater and wastewater;
- Protect the quality of water supplies through source controls and land use planning;
- Increase waste reduction and recycling.

7.1.2 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (2017)

The 2017 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) was developed by the Massachusetts Executive Office of Energy and Environmental Affairs. The SCORP is a planning document that assessed the availability of recreational resources and the needs of residents throughout the state as a way to identify gaps. It is also one method how states meet multiple goals of the National Park Service and remain eligible for funding from the national Land and Water Conservation Fund (LWCF). In Massachusetts, EEA administers LWCF grants to Commonwealth communities with approved Open Space and Recreation Plans. Grants can be used for activities that address recreation and open space needs, including land acquisition for conservation or recreation purposes or park renovation.

The development of the latest SCORP involved an extensive public outreach process, including regional public meetings and surveys. Surveys targeted specific groups: recreation users, municipal employees, land trusts, and middle and high school students.

The following provides an overview of the SCORP findings.

Recreation Users and Youth

Through the surveys, most recreation users said outdoor recreation was very important to them for physical fitness, mental well-being, and being close to nature. When asked why they visited a specific outdoor recreation facility, most responded that it was closest to their home. About three quarters of survey respondents had a park or conservation area within walking or biking distance to their homes, but more than half drove. Lack of time was the number one reason why respondents did not visit outdoor recreation sites more frequently. Most respondents to the survey felt that programming at a facility was somewhat or very important, particularly for seniors, young children (4 to 12 years old), and teens. The most popular recreational activities respondents engaged in over the past 12 months were water-based recreation (boating, swimming, etc.) and trail-based recreation (hiking, biking, cross-country skiing, etc.). Desired amenities or activities were more trails, playgrounds for all young children, including those with disabilities, and more water-based recreation.

The most popular activities for middle and high school aged youth were team activities like soccer, lacrosse, and football. Teens favored swimming, hiking, running/jogging, walking, and road biking. Youth and teens frequented outdoor recreation facilities closest to where they lived, and popular reasons why they visited these sites were for fun and enjoyment, spend time with friends and family, and to be outside. Lack of time, weather, and use of the Internet were primary reasons why younger respondents did not visit facilities or participate in recreational programming. Desired amenities were more recreational sites close to home, more equipment at sites, and providing spaces that are “just for kids my age.”

Municipal Employees

Municipal land and conservation staff were asked about types and quality of resources available to their residents. Out of 351 communities, 58 municipalities (17%) responded to a survey. Most responses (about one third) came from local conservation commissions followed by parks and recreation departments. More than half (69%) of respondents had part- or full-time recreation staff and 82% had part- or full-time conservation staff. The SCORP noted that this demonstrates that communities are able to provide many types of outdoor recreation facilities for their residents. Important factors to consider when determining a community’s staffing and financial capacity to provide quality resources and programming are the number of sites a community has, the types of amenities offered at each site, regular maintenance required, and the size of the sites, among other attributes.

About half of respondents offered more than nine programs annually. Those providing less focused on activities that connected children to the outdoors. Only 16% responded that they offered more than four activities per year for people with disabilities.

Highest priorities for funding in the next year were for playgrounds, ballfields, community or regional trail systems, and improving pedestrian access to parks such as sidewalks and safe road crossings. This is consistent with responses from recreational users and youth groups.

Land Trusts

About one third of land trusts in the Commonwealth responded to the SCORP survey. Most cited connecting the public with nature as the most important issue for their organization, followed by connecting with local neighborhoods and schools. Popular activities on land trust properties were walking/jogging/hiking, dog walking, and nature study. The top three issues facing land trusts are trail work, conservation restriction stewardship, and acquiring new land. The need for trails echoes that in municipalities. Invasive species are the greatest physical issue land trusts are dealing with. As to social issues, littering and dumping are encountered most frequently.

7.2 Resource Protection Needs

Burlington is a densely developed community nearing both residential and commercial build-out. Much of the development in town occurred before regulations limiting natural resource impacts were in place so there is great need to improve existing conditions. Open space acquisition should remain a priority as well, as evidenced by the deficiency in Town-owned, permanently protected open space in comparison to neighboring communities.

Recognizing that a small percentage of the community responded to the survey issued as part of this OSRP update, 94% felt that it was very important to preserve open space and natural areas in Burlington, specifically to protect water resources and meet conservation needs (Figure 4).

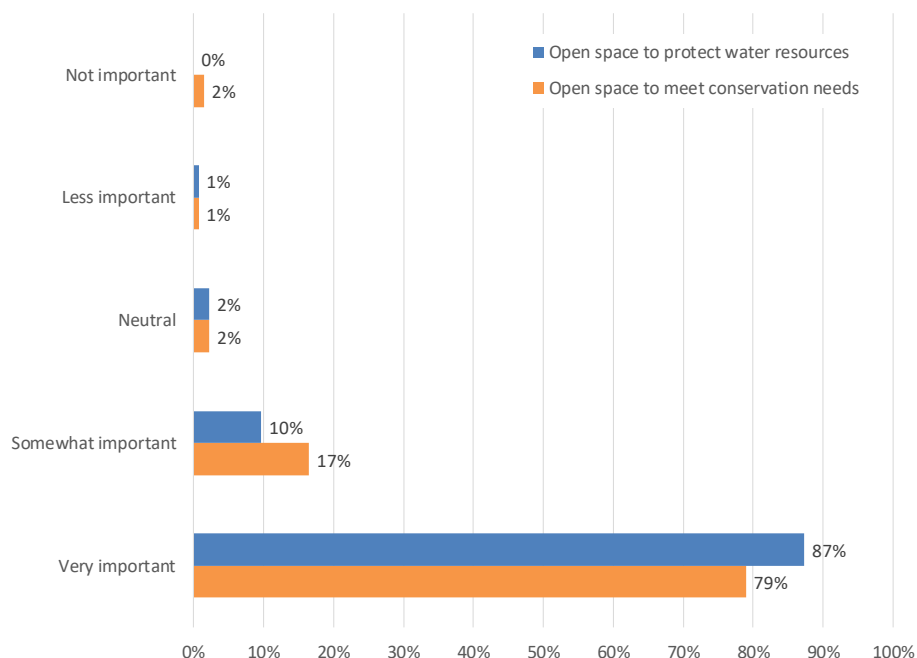


Figure 4. Survey responds to “How important is it to protect the following?”

7.2.1 Habitat Corridors

Connecting green space can provide safe corridors for wildlife and allow them to move safely through environments and maintain habitat. While the Conservation Commission is eager to acquire more land for the purpose of creating new conservation areas and link existing areas, the reality is there are very few large areas of undeveloped land in Town. The two remaining areas are the aforementioned Landlocked Forest and Mary P.C. Cummings Estate. These areas are welcome additions to the Town's conservation areas, and both are permanently protected as open space under the provisions of Article 97. As previously mentioned, two local residents' groups work to ensure the permanent protection of these open space areas and The Trustees recently assumed the management of the Mary P.C. Cummings Estate. Neighboring towns have taken action to connect to and enhance these areas. The Town of Lexington is currently working on the West Lexington Greenway, intended to connect green space from the edge of The Landlocked Forest through the western part of Lexington via an extensive trail network. The City of Woburn purchased the Whispering Hill site, a large green space adjacent to Mary P.C. Cummings Estate.

As there are limited possibilities for the establishment of new conservation areas in Burlington, the focus of resource protection efforts has been and should continue to be to acquire parcels of land to expand existing conservation areas and adjacent to or encompassing wetlands and waterways. Conservation restrictions should also be pursued for parcels adjacent to existing protected open space and/or along waterways where outright acquisition isn't feasible. The acquisition and protection of land adjacent to existing protected natural areas, enhancing and enlarging core wildlife areas, is essential to our native wildlife. The acquisition of land along our waterways and wetlands will not only aid in wildlife movement but will also aid in watershed protection.

7.2.2 Protecting Watersheds

In addition to the expansion of existing conservation areas and creating wildlife corridors, local land acquisition efforts focus on protecting our watersheds and wetlands, though opportunities are infrequent. While there is not much land left to buy in Burlington for conservation, there are a few remaining undeveloped parcels of land, the protection of which would certainly help to protect our watersheds.

A potentially more effective and more critical focus for watershed protection is the utilization of environmentally responsible management decisions throughout Town, such as the commitment of the Parks and Recreation Department to continue to use only primarily organic materials and fertilizers for the maintenance of all town-owned fields. Burlington is a high-traffic area and much of the industry and infrastructure was built adjacent to the water supply before regulations limited such actions. The Town should implement pollution abatement measures to preserve the biodiversity and natural features of the land and to ensure the health of our waters.

In addition to property acquisition, land development and management policies implemented at the local level can help minimize the impacts on water resources. Low impact development (LID) techniques use the natural environment to remove pollutants from runoff and store rainwater after storm events.

This approach has not only environmental benefits, but also increases aesthetics of the area with thoughtful landscaping design with natural features. The Zoning Bylaws and the Sediment and Erosion Control Bylaws and Subdivision Regulations should be revisited and revised. This review should be in conjunction with the requirements of the Town's National Pollutant Discharge Elimination System Program (NPDES) Permit and if requiring the use of LID techniques will help it meet the requirements of its permit.

The Municipal Vulnerability Preparedness Program¹⁵ (MVP) allows communities to assess their risk to natural hazards and the impacts of climate change and develop an action plan to minimize those risks. The Town of Burlington has started the process and, in the spring of 2019, it will begin the process of bringing together different members of the community to talk about important issues and ways to address them. Through existing studies and assessments, issues of immediate concern are flooding and damage associated with severe storms, and through the MVP process, the Town expects to understand other risks and how they can become more resilient.

7.3 Community Needs

Priorities identified in the 2017 Parks and Recreation Needs Assessment and during the public engagement done as part of the OSRP update were consistent. Residents are generally happy with the active and passive recreational opportunities in Burlington, but they do point out areas of improvement and recognize how needs are changing.

7.3.1 Active Recreation Needs

Active recreation typically centers around activities at facilities, either indoor or outdoor. According to the 2017 Parks and Recreation Department needs assessment survey, Burlington residents indicated their top needs for indoor recreational facilities were a swimming pool (including outdoor), weight or fitness area, a teen or youth center, multi-purpose gymnasiums, and athletic courts. Residents are also looking for undesignated green space that allows for informal or unorganized recreational opportunities. These priorities were also highlighted at public meetings for this OSRP update, particularly a swimming pool.

Residents feel the Town could benefit from safer ways to walk and bike, such as designated walking and biking paths, on-road striping for bikes, and sidewalks. These issues were identified in the 2017 Parks and Recreation Needs Assessment survey as well as public input as part of this OSRP update. Not only do these amenities provide recreational opportunities, they also promote active lifestyles and get people out of their cars. This happens if connections are made between residential areas, conservation areas, recreational facilities, commercial areas, and employment centers. Challenges associated with increasing biking infrastructure in Burlington, particularly on-road, are associated with safety and feasibility. Roadways that could act as connectors have narrow rights-of-way limiting a shoulder for a bike lane or bike travel in general, high traffic volumes, and high speed limits. Opportunities could start with incremental improvements for an off-road network. There may also be opportunities to work with

¹⁵ <https://www.mass.gov/municipal-vulnerability-preparedness-mvp-program>

businesses to access easements across private property that can make connections to employment centers. These networks could encourage workers to bike rather than drive to reduce vehicular traffic on local roadways. Sidewalks are also a priority town-wide and a Sidewalk Committee has been recently formed to help with sidewalk construction and maintenance.

In 2018, the Town of Burlington began pursuing the development of a Complete Streets policy, which would establish its commitment to making roadways safe and accessible for not only driving, but walking, biking, and transit options. By adopting this policy, the Town will become eligible for funding to develop a prioritization plan through the Massachusetts Complete Streets Funding Program.¹⁶ The plan will identify local projects that incorporate Complete Streets elements and rank them based on their ability to address defined issues and needs. Development of the prioritization plan makes the Town eligible for additional funds for construction of infrastructure projects in the plan. The Town should consider walking and biking connectivity to recreation and open space resources when developing its goals and principles for its Complete Streets policy to help meet these stated needs.

The 2017 Parks and Recreation Needs Assessment town-wide survey¹⁷ provides additional information on recreation facility and programming needs.

7.3.2 Passive Recreation Needs

Passive recreation, which focuses on being active in more natural areas without built facilities, can include trails for hiking, bird watching, and observing nature. The need for these types of activities in Burlington exists, and respondents to the OSRP survey support preserving land for passive recreational needs (84% of respondents), but, as it has been noted, opportunities to increase conservation areas is limited. To meet the need for these experiences, the Town needs to focus on existing areas. When surveyed about needed amenities at the Town's conservation areas, many residents did not know resources exist or how to access them, which raises several issues. Several sites have limited accessibility overall simply due to the lack of parking or, if walking, continuous sidewalks between residential or commercial areas and these properties. Many are not identified with signage at entrances. Better connections, as noted above under Active Recreation Needs, and increasing visibility can increase usage.

Residents that frequent the Town's conservation areas see the need to increase amenities at these areas, such as parking, benches, trail markings, and information kiosks. There are mixed opinions about adding trash receptacles. Several residents point out using a "carry in, carry out" policy, which requires less maintenance (emptying receptacles) but relies on the public's responsibility to take their trash with them.

¹⁶ <https://masscompletestreets.com/>

¹⁷ <http://www.burlington.org/BPRD%20Needs%20Assessment.pdf>

7.3.3 Special Groups Needs

Persons with Disabilities

There is a notable deficiency in the accessibility of preserved natural areas to persons with disabilities. Conservation areas, acquired and maintained to preserve natural conditions, are by nature difficult terrain. Some recreation sites, such as fields and playgrounds, also lack amenities to allow for meaningful use by those with a wide range of disabilities. The Americans with Disabilities Act (ADA) Self Evaluation completed as part of this update provides a complete assessment of all properties owned and managed by the Conservation Commission and the Parks and Recreation Department (See Appendix F). A transition plan prioritizes actions to improve access. These include:

- Designation of new accessible parking and improvements to existing striping and signage at Marvin Field, Rahanis Park
- Wheelchair accessible portable restrooms at several recreation sites
- Wheelchair access at Rahanis Park between parking area and dog park
- Access improvements to picnic areas at Regan Park and Wildwood Park

The Burlington Disability Access Commission is very active and has spearheaded many improvements since the 2011 OSRP, but as noted in the transition plan, more needs to be done. Increasing accessibility to conservation is a priority where feasible. Recreational facilities, when possible, are being constructed or altered to improve ADA accessibility.

Teens and Youth

While most recreational facilities and programming in Burlington try to integrate all ages, there were specific needs identified for teens and youth. In the 2017 Parks and Recreation Needs Assessment, the desire for out-of-school activities for this age group was expressed, including a dedicated space for teen and youth programming like a teen or youth center. It was described as offering space for drop-in recreation, games, and other social activities.

7.3.4 Communication Needs

Another critical need is to connect the Burlington community to existing open space through better public education and outreach. The Parks and Recreation Department needs to address their communication regarding open space and recreation opportunities and outdoor amenities. Burlington residents have indicated that a significant obstacle to their use and enjoyment of conservation areas is that many do not know where these facilities are located. This was cited as a need in the 2011 OSRP, and the Conservation Department page on the Town website was redesigned to include a clear map depicting conservation area locations, trail maps for the more heavily used lands, and descriptions of these areas, though more outreach is needed. Recently, the Conservation Department and Conservation Commission have been more active on social media, particularly on Twitter (@ConCom_01803). This can be a platform to increase awareness of the Town's efforts around conservation.

7.4 Management Needs

Mary P.C. Cummings Estate, which is managed by The Trustees, is the only property in Burlington that is not managed by the Town. There are no other lands owned and/or managed by federal, state, and other management entities such as trustees and nonprofits; therefore, municipal management of public open space is critical. As stated throughout this plan, there is very little undeveloped, unprotected open space left in Town. Recognizing this, the proper management and maintenance of existing open space is imperative to ensure the community is afforded the most benefit from these spaces.

7.4.1 Parks and Recreation Department

There continues to be a need to expand the Parks and Recreation Department's maintenance capabilities by improving its maintenance management and increasing seasonal staff. The Department currently maintains all of the Town's parks, playgrounds, athletic fields, school grounds, tennis courts, basketball courts, and all other outdoor recreation facilities. There are not sufficient resources to maintain all of these facilities adequately. The 2017 Parks and Recreation Needs Assessment highlights recommendations that the Department will pursue, including the use of maintenance management software to track park maintenance and schedules, staggering seasonal maintenance staff to ensure coverage of the shoulder seasons, and pursuing professional development opportunities for staff to ensure that maintenance is done efficiently and appropriately.

7.4.2 Conservation Department

There is a need to expand the Conservation Department's management capabilities by increasing staffing levels. Burlington does not currently have baseline documentation for its conservation areas beyond simple vegetation and wildlife surveys. Baseline documentation for natural resources is a necessary first step in the creation of land management plans – documents that provide specific direction to the care and maintenance of conservation areas. Marked boundaries, detailed baseline documentation, regularly updated land management plans, and regular monitoring are essential for the continued care and protection of these natural areas. Establishing these necessary management tools will require a significant time commitment beyond current staffing levels.

Through a series of guided conservation outings, the Conservation Department formed the Burlington Conservation Stewards, a dedicated group of residents who can help to respond to the needs of the conservation areas. Participation in the Stewards program has waxed and waned over the years. These volunteers are critical to the management of our open spaces and assist in education, trail maintenance, GPS surveys, and new land acquisition. Currently, the Burlington Science Center and the Burlington Cub Scout and Boy Scout troops are an integral part of maintenance and upkeep of conservation areas.

Local businesses can also be partners. Employers can promote nearby recreational opportunities to employees. A working relationship with businesses could also open resources if they are able to help with maintenance and build programming at facilities popular with their workforce.

The Conservation Department would like to establish a funding source for land acquisition to allow for the purchase of undeveloped land when it becomes available. Some Town residents have expressed

interest in adopting the Community Preservation Act in Town, which would help the Town preserve open space and historic sites and to create affordable housing and recreational facilities.

8 Goals and Objectives

GOAL A: MAINTAIN BURLINGTON'S TOWN COMMON

Objectives:

- A-1 Continue to improve accessibility for people with disabilities.
- A-2 Upgrade bandstand and surroundings.
- A-3 Upgrade the sidewalks.
- A-4 Beautify the Town Common.

GOAL B: PROVIDE NEW RECREATIONAL OPPORTUNITIES FOR ALL RESIDENTS

Objectives

- B-1 Increase recreational opportunities, particularly in underserved areas of town, wherever possible.
- B-2 Provide spray pad facilities.
- B-3 Consider providing a public swimming facility.
- B-4 Continue to provide multi-purpose fields.
- B-5 Improve access to athletic fields for all users.
- B-6 Develop a new adult softball field complex.
- B-7 Develop a new indoor recreation facility.

GOAL C: PROVIDE NEW AMENITIES AT EXISTING RECREATION FACILITIES

Objectives

- C-1 Improve lighting at existing facilities.
- C-2 Provide picnic shelters/restrooms/out buildings at appropriate facilities.

GOAL D: IMPROVE THE MAINTENANCE AND MANAGEMENT OF RECREATION FACILITIES

Objectives

- D-1 Continue to improve maintenance of athletic fields.
- D-2 Use technology to assist with facility maintenance.
- D-3 Continue to improve driveways, walkways, and parking lots, including drainage issues, at the Town's parks and playgrounds.
- D-4 Continue to upgrade existing facilities.
- D-5 Improve signage at all public recreation facilities.
- D-6 Incorporate native and drought tolerant plants in recreation facility landscaping.
- D-7 Develop a field scheduling matrix.
- D-8 Reduce the impact of usage on athletic fields.

GOAL E: WORK WITH MANAGER OF MARY PC CUMMINGS ESTATE BURLINGTON RECREATION AREA TO PROMOTE A VARIETY OF ACTIVE AND PASSIVE RECREATIONAL ACTIVITIES AT THE PARK

Objectives

- E-1 Continue to work with The Trustees as the managers of the property to maintain recreation opportunities for the public.
- E-2 Continue to maintain trails at the park.
- E-3 Provide other recreational opportunities at the park.

GOAL F: PROVIDE SAFE WALKING AND BIKING OPPORTUNITIES TOWNWIDE THAT ALSO IMPROVE ACCESS AND CONNECTIONS TO CONSERVATION AND RECREATION AREAS

Objectives

- F-1 Increase the number of sidewalks, bike paths, and walking paths, especially in areas between conservation and recreation areas.
- F-2 Explore potential funding and use of other options to link Burlington's conservation and recreation areas via paths, corridors, and sidewalks.
- F-3 Use technology to provide public access and knowledge of open space and recreation facilities.

GOAL G: IMPROVE ACCESS TO RECREATION AND CONSERVATION AREAS AND PROGRAMMING FOR THOSE WITH DISABILITIES TO THE GREATEST EXTENT PRACTICABLE

Objectives

- G-1 Monitor progress made on the Transition Plan of the ADA Self-Evaluation.
- G-2 Ensure that accessibility barriers are identified and addressed.
- G-3 Improve ADA accessibility to all recreation facilities.
- G-4 Improve access to open space for people with disabilities.

GOAL H: INVOLVE THE PRIVATE SECTOR IN PROTECTING OPEN SPACE AND PROVIDING RECREATION OPPORTUNITIES

Objectives

- H-1 Continue to encourage owners of business properties to partner in the development and promotion of local recreation opportunities that can benefit both employees and residents.
- H-2 Promote public-private partnerships to acquire land or have it dedicated for conservation and resource protection.

GOAL I: PROTECT BURLINGTON'S WATER AND NATURAL RESOURCES

Objectives

- I-1 Develop strategies for protecting and preserving Burlington's water and natural resources through public education, land acquisition, and regulation.
- I-2 Prevent sediment build-up in streams and improve water quality through the use of stormwater best management techniques.
- I-3 Certify more vernal pools in Burlington.

GOAL J: MANAGE, MAINTAIN, AND EXPAND CONSERVATION AREAS

Objectives

- J-1 Continue to enhance the Burlington Conservation Steward program.
- J-2 Continue to improve and maintain trails in conservation areas.
- J-3 Explore the Community Preservation Act as a way to fund property acquisition, among other town-wide objectives.
- J-4 Work to minimize and eliminate invasive species in the conservation areas.
- J-5 Increase land protected from future development through a variety of approaches.
- J-6 Work to eliminate negative human impacts to conservation areas.

GOAL K: INCREASE AMENITIES AT CONSERVATION AREAS

- K-1 Research funding opportunities to add new amenities.
- K-2 Identify and prioritize sites and needed amenities.
- K-3 Use local community groups to help with installation.

GOAL L: INCREASE PUBLIC AWARENESS AND USE OF CONSERVATION AND RECREATION AREAS

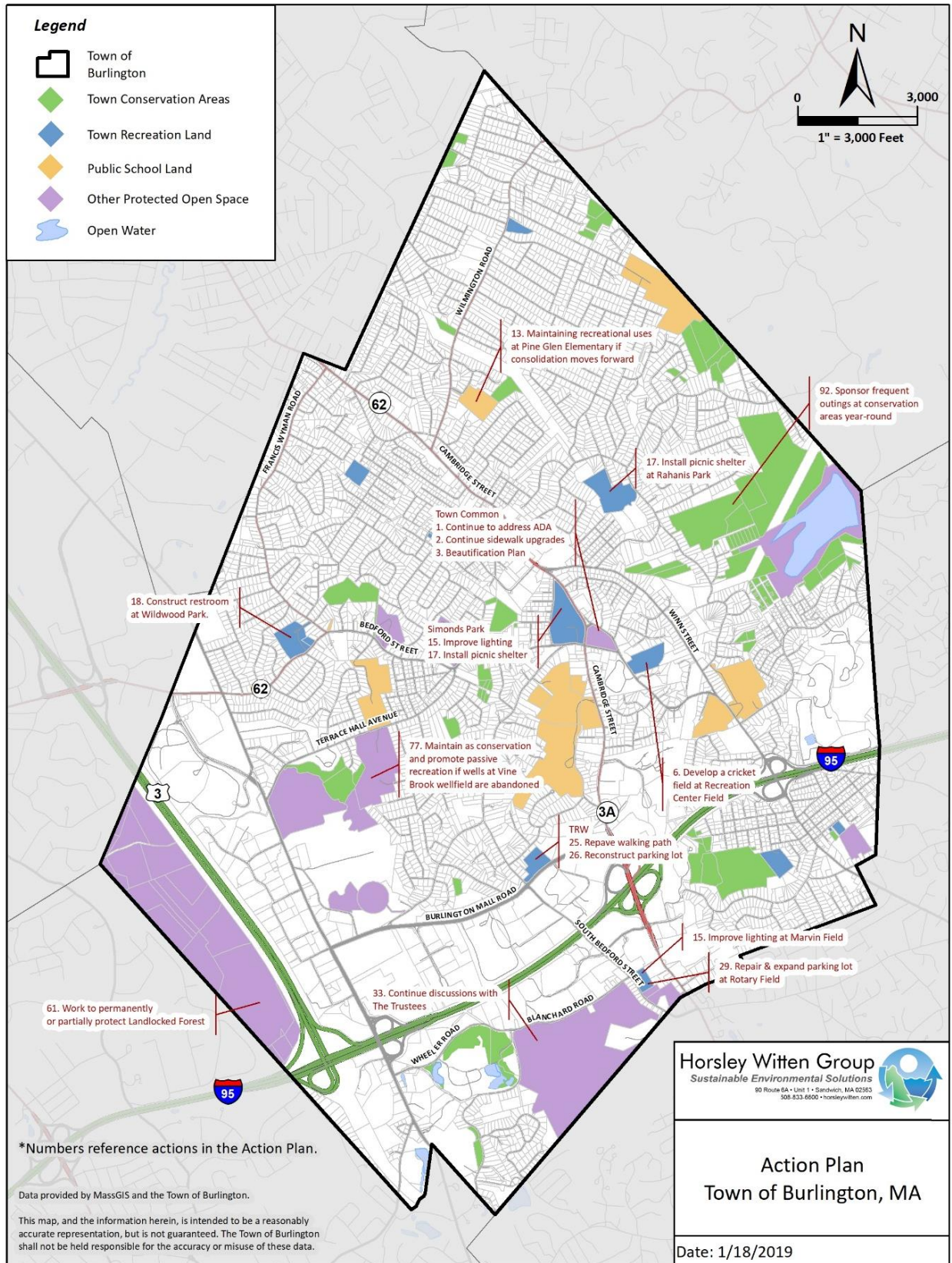
Objectives

- L-1 Increase and improve general public outreach efforts about conservation and recreation areas through events, social media, and communications.
- L-2 Promote year-round use of conservation areas.
- L-3 Increase and improve school-aged residents' environmental education and participation.

9 Seven-Year Action Plan

The Seven-Year Action Plan, as follows, outlines a schedule to implement Town's goals and objectives listed above. It is also represented on Map 9.

The Action Plan is organized by goal and includes an estimated **timeframe** (year in which the action is expected to begin) and the **responsible party** within the Town. Timeframes may also indicate that actions are "ongoing" because have already started or may not have an "end," that is, they are activities done by departments on a regular basis. A **potential funding source** has also been identified for each action item where applicable.



Map 9. Action Plan

SEVEN YEAR ACTION PLAN

Goal A: Maintain Burlington's Town Common

Action	Responsible Party	Year	Potential Funding Source
Objective A-1 Continue to improve accessibility for people with disabilities.			
Objective A-2 Upgrade bandstand and surroundings.			
1. Continue to address ADA accessibility issues at the Common, including access to the bandstand/gazebo.	Board of Selectmen, Parks and Recreation, Disability Access Commission	2019	Town Meeting Warrant, Grants
Objective A-3 Upgrade the sidewalks.			
2. Continue to upgrade sidewalks.	Board of Selectmen, Parks and Recreation	2019	MassDOT Complete Streets Program
Objective A-4 Beautify the Town Common.			
3. Develop a beautification plan that includes elements for new landscaping that includes native, drought-resistant, and low maintenance plantings.	Board of Selectmen, Beautification Committee, Parks and Recreation, Garden Club	2020	-
4. Continue to seek funding for improvements.	Parks and Recreation	Ongoing	-

Goal B: Provide recreational opportunities for all residents

Action	Responsible Party	Year	Potential Funding Source
Objective B-1 Increase recreational opportunities, particularly in underserved areas of town, wherever possible.			
5. Install a playground with Universal Design.	Parks and Recreation	2019	Town Meeting Warrant, Grants
6. Inventory and review vacant town-owned parcels for potential to provide recreational opportunities. Establish criteria for the review, including factors such as size, site features, and access.	Board of Selectmen, Parks and Recreation, DPW	2019	-
7. Prioritize vacant town-owned parcels that have the greatest potential to provide recreation amenities and opportunities. Assess the feasibility to develop recreational facilities at these sites.	Board of Selectmen, Parks and Recreation, DPW	2020	-
8. Monitor discussions around the consolidation of Fox Hill and Pine Glen Elementary Schools. Incorporate into the discussion the possibility of maintaining recreational uses at Pine Glen and any future amenities that could increase recreational opportunities for this neighborhood.	Board of Selectmen, Parks and Recreation, School Department	Ongoing	-

Action	Responsible Party	Year	Potential Funding Source
Objective B-2 Provide spray pad facilities.			
9. Determine the location for a new spray pad park.	Parks and Recreation	2020	-
Objective B-3 Consider providing a public swimming facility.			
10. Review the feasibility, including potential locations and costs, of either an indoor or outdoor public swimming pool.	Parks and Recreation	2023	-
Objective B-4 Continue to provide multi-purpose fields.			
Objective B-5 Improve access to athletic fields for all users.			
11. Develop a cricket pitch at an existing Parks and Recreation Department facility.	Parks and Recreation	2019	Town Meeting Warrant, Grants
12. Designate space for field usage that does not require a permit.	Parks and Recreation	2021	-
13. Periodically survey residents and users to identify the need for new fields or types of fields.	Parks and Recreation	Ongoing	-
Objective B-6 Develop a new adult softball field complex.			
14. Evaluate potential locations for an adult softball field complex.	Parks and Recreation	2020	-
Objective B-7 Develop a new indoor recreation facility.			
15. Evaluate sites for a potential indoor recreation facility.	Parks and Recreation	2024	-

Goal C: Provide new amenities at existing recreation facilities

Action	Responsible Party	Year	Potential Funding Source
Objective C-1 Improve lighting at existing facilities.			
16. Improve lighting at Simonds Park and Marvin Field.	Parks and Recreation	2019	Town Meeting Warrant, Grants
17. Develop a schedule for lighting upgrades and new installations.	Parks and Recreation	2020, ongoing	-
Objective C-2 Provide picnic shelters/restrooms/out buildings at appropriate facilities.			
18. Install a picnic shelter at Simonds Park and Rahanis Park.	Parks and Recreation	2020	Town Meeting Warrant, Grants
19. Construct restroom at Wildwood Park.	Parks and Recreation	2020	Town Meeting Warrant, Grants

Goal D: Improve the maintenance and management of recreation facilities

Action	Responsible Party	Year	Potential Funding Source
Objective D-1 Continue to improve maintenance of athletic fields.			
Objective D-2 Use technology to assist with facility maintenance.			
20. Purchase software to assist with the computerization of field maintenance scheduling.	Parks and Recreation	2019	Town Meeting Warrant, Grants
21. Evaluate the current organic standards to maintain all athletic fields and determine modifications, if needed.	Parks and Recreation	2020	-
22. Use software to improve the organization of equipment upkeep and personnel scheduling.	Parks and Recreation	2020, Ongoing	-
Objective D-3 Continue to improve driveways, walkways, and parking lots, including drainage issues, at the Town's parks and playgrounds.			
23. Repave walking path at TRW.	Parks and Recreation	2020	Town Meeting Warrant, Grants
24. Reconstruct parking lot at TRW.	Parks and Recreation	2020	Town Meeting Warrant, Grants
25. Repair and expand parking lot at Rotary Field.	Parks and Recreation	2021	Town Meeting Warrant, Grants
26. Repave the back parking lot at Rahanis Park.	Parks and Recreation, DPW	2021	Town Meeting Warrant, Grants
27. Reconstruct and expand backstop at Rotary Field.	Parks and Recreation	2021	Town Meeting Warrant, Grants
28. Seek funding for repaving and improvement projects.	Parks and Recreation	Ongoing	-
Objective D-4 Continue to upgrade existing facilities.			
29. Inventory and prioritize parks and playgrounds that need equipment upgrades.	Parks and Recreation	2019	-
30. Develop a schedule of equipment upgrades.	Parks and Recreation	2020	-
Objective D-5 Improve signage at all public recreation facilities.			
31. Inventory and prioritize recreation facilities that need new or updated signage.	Parks and Recreation	2019	-
Objective D-6 Incorporate native and drought tolerant plants in recreation facility landscaping.			
32. Develop a policy to use native and drought tolerant plants in recreational facility landscaping.	Parks and Recreation	2019	-
Objective D-7 Develop a field scheduling matrix.			
Objective D-8 Reduce the impact of usage on athletic fields.			
33. Develop field-use standards for highly used athletic fields.	Parks and Recreation	2019	-

Goal E: Work with The Trustees to promote a variety of active and passive recreational activities at the Mary P.C. Cummings Estate

Action	Responsible Party	Year	Potential Funding Source
Objective E-1 Continue to work with The Trustees as the managers of the property to maintain recreation opportunities for the public.			
Objective E-2 Continue to maintain trails at the park.			
Objective E-3 Provide other recreational opportunities at the park.			
34. Continue to maintain discussions with The Trustees about current and potential uses at the park.	Board of Selectmen, Parks and Recreation, Conservation	Ongoing	-

Goal F: Provide safe walking and biking opportunities town-wide that also improve access and connections to conservation and recreation areas

Action	Responsible Party	Year	Potential Funding Source
Objective F-1 Increase the number of sidewalks, bike paths, and walking paths, especially in areas between conservation and recreation areas.			
35. Ensure that Burlington's Complete Streets project prioritization include projects that increase access to and connect conservation and recreation areas.	Engineering, Planning, Conservation, Parks and Recreation	2019	-
36. Inventory opportunities between existing open spaces to build trail linkages. Prioritize opportunities to acquire/gain permission to access.	Conservation	2020-2021	-
37. Develop wayfinding and information signage that guide people between conservation and recreation areas by biking or walking.	Conservation, Recreation, Planning	2022	Town Warrant, Grants
38. Encourage the construction of sidewalks or walkways, where applicable, as part of new developments.	Planning Board	Ongoing	-
39. Work with neighboring town and regional groups, including MAPC, in the development of walking and bike networks. Monitor land use changes and agendas in neighboring towns.	Conservation, Parks and Recreation, Planning	Ongoing	-
40. Continue work on a Town-wide bicycle and pedestrian plan. Highlight gaps and include connections to regional networks, such as the Minutemen Bikeway in Lexington.	Planning	Ongoing	-
Objective F-2 Explore potential funding and use of other options to link Burlington's conservation and recreation areas via paths, corridors, and sidewalks.			
41. Research grants and consider the use of Chapter 90 money.	Conservation, Planning, DPW	Ongoing	-
Objective F-3 Use technology to provide public access and knowledge of open space and recreation facilities.			
42. Use the Town's website and social media to provide information about conservation areas and recreation facilities.	Conservation, Planning, DPW	Ongoing	-

Goal G: Improve access to recreation and conservation areas and programming for those with disabilities to the greatest extent practicable

Action	Responsible Party	Year	Potential Funding Source
Objective G-1 Monitor progress made on the Transition Plan of the ADA Self-Evaluation.			
Objective G-2 Ensure that accessibility barriers are identified and addressed.			
43. Revisit the ADA Self-Evaluation Transition Plan to ensure that projects are being completed.	Parks and Recreation, Conservation, Disability Access Commission	Ongoing	Town Meeting Warrant, Grants
44. Update the Transition Plan as new projects are identified and prioritized.	Parks and Recreation, Conservation, Disability Access Commission	Ongoing	-
Objective G-3 Improve ADA accessibility to all recreation facilities.			
Objective G-4 Improve access to open space for people with disabilities.			
45. Consider accessibility in all efforts to improve existing recreation and conservation areas or when developing new facilities.	Parks and Recreation, Conservation, Disability Access Commission	Ongoing	-

Goal H: Involve the private sector in protecting open space and providing recreation opportunities

Action	Responsible Party	Year	Potential Funding Source
Objective H-1 Continue to encourage owners of business properties to partner in the development and promotion of local recreation opportunities that can benefit both employees and residents.			
46. Identify commercial properties where dedicated easements can help build biking and walking connections and reach out to owners to build partnerships.	Planning, Conservation, DPW	2020	-
47. Reach out to local businesses as sponsors of local public events.	Parks and Recreation, Conservation	Ongoing	-
48. Develop sponsorship opportunities to encourage local businesses' involvement in the development and improvement of outdoor recreation facilities.	Parks and Recreation	Ongoing	-
49. Encourage increasing green space in redevelopment projects.	Planning, Conservation	Ongoing	-
Objective H-2 Promote public-private partnerships to acquire land or have it dedicated for conservation and resource protection.			
50. Establish a systematic program and policy for accepting donations of land from the private sector.	Conservation	2020	-
51. Continue to update information on Conservation Department page of the Town's website to encourage the donation/dedication of conservation restrictions.	Conservation	Ongoing	-

Goal I: Protect Burlington's water and natural resources

Action	Responsible Party	Year	Potential Funding Source
Objective I-1 Develop strategies for protecting and preserving Burlington's water and natural resources through public education, land acquisition, and regulation.			
52. Update land development regulations and stormwater management policies to require the use of low impact development strategies to manage stormwater of development and redevelopment projects.	Board of Selectmen, Conservation Commission, Planning Board, Planning, Conservation, DPW	2019	-
53. Research the adoption of a Tree Bylaw.	Conservation, Planning	2020	-
54. Conduct a public tree inventory and condition assessment to provide a baseline of the Town's tree canopy. Prioritize areas of concern and potential preservation methods.	Conservation	2021-2022	Grants
55. Acquire land surrounding Town water resources when it becomes available.	Conservation, Board of Selectmen	Ongoing	Grants
56. Promote conservation restrictions to private property owners of land surrounding Town water resources.	Conservation, Board of Selectmen	Ongoing	-
Objective I-2 Prevent sediment build-up in streams and improve water quality through the use of stormwater best management techniques.			
57. Disseminate information on the impacts of dumping in wetlands, waterways, and catch basins (requirement of the Town's MS4 Permit).	Conservation	Ongoing	-
58. Stencil dumping warnings on storm drains (ex – "don't dump, drains to Ipswich River"; requirement of the Town's MS4 Permit).	Conservation, DPW	Ongoing	Town Meeting Warrant
59. Review areas where sediment is washing into streams and consult with DPW regarding techniques to minimize problem (requirement of the Town's MS4 Permit).	Conservation, DPW	Ongoing	-
Objective I-3 Certify more vernal pools in Burlington.			
60. Run vernal pool certification workshops through the Conservation Department in collaboration with the Burlington High School students.	Conservation	Ongoing	-
61. Continue to identify and certify vernal pools.	Conservation	Ongoing	-

Goal J: Manage, maintain, and expand conservation areas

Action	Responsible Party	Year	Potential Funding Source
Objective J-1 Continue to enhance the Burlington Conservation Steward program.			
Objective J-2 Continue to improve and maintain trails in conservation areas.			
62. Continue to recruit volunteers for the Burlington Conservation Steward program.	Conservation	Ongoing	-
63. Hold frequent events at the conservation areas.	Conservation	Ongoing	-
64. Continue to work with the Burlington Conservation Stewards and other partners (e.g. Scouts) on marking and maintaining trails.	Conservation	Ongoing	-
65. Build regular communication with frequent users of conservation areas through different ways, including social media.	Conservation	Ongoing	-
66. Work to obtain permanent or partial protection of Landlocked Forest through conservation restrictions or conveyance into the care and custody of the Burlington Conservation Commission.	Conservation	2019	-
Objective J-3 Explore the Community Preservation Act as a way to fund property acquisition, among other town-wide objectives.			
67. Increase public awareness of the Community Preservation Act and the benefits to the community as a whole as a tool to address recreation and conservation needs, among other opportunities outside of the OSRP.	Board of Selectmen, Conservation, Planning, Parks and Recreation	2019	-
68. Develop a campaign for local adoption of the Community Preservation Act.	Board of Selectmen, Conservation, Planning, Parks and Recreation	2020	-
Objective J-4 Work to minimize and eliminate invasive species in the conservation areas.			
69. Develop an invasive species management plan for the Town's conservation areas. Train and use volunteers for invasive species management on conservation areas.	Conservation	2020	-
70. Increase public awareness of invasive species through education campaign.	Conservation	Ongoing	-
Objective J-5 Increase land protected from future development through a variety of approaches.			
71. Identify properties adjacent to existing conservation areas and parks that would build the Town's open space network. Prioritize properties that have multiple benefits if protected, including floodwater storage, stormwater management, water quality protection, and wildlife habitat and corridors.	Conservation, DPW	2021	-

Action	Responsible Party	Year	Potential Funding Source
72. Conduct an outreach campaign to owners of high-priority properties next to existing conservation areas to encourage donation of land or conservation restrictions.	Conservation	2022	-
73. Use diverse approaches, including social media, to educate the public about the donation of land and conservation restrictions.	Conservation	Ongoing	-
74. Should the Town abandon the wells at Vine Brook wellfield, maintain the property as conservation area and promote passive recreational uses.	Conservation, DPW	Ongoing	
Objective J-6 Work to eliminate negative human impacts to conservation areas.			
75. Work with the Police Department to help with the enforcement of prohibited activities on conservation areas and recreation facilities, including the use of ATVs.	Conservation, Parks and Recreation	Ongoing	-
76. Install barriers at conservation areas and recreation facilities to deter ATV use, such as signs indicating fines for violation, gates, concrete posts, or boulders at trail heads etc.	Conservation, DPW, Parks and Recreation	Ongoing	Town Meeting Warrant, Grants
77. Publicize dumping incidents and their impacts on the environment through different methods, including social media. Encourage neighborhood involvement in monitoring and reporting incidences.	Conservation	Ongoing	-
78. Communicate to general public about the proper use of conservation areas.	Conservation	Ongoing	-
79. Increase awareness and use of "Report a Concern" on the Town's website for incidences at conservation areas.	Conservation	Ongoing	-

Goal K: Increase amenities at conservation areas

Action	Responsible Party	Year	Potential Funding Source
Objective K-1 Research funding opportunities to add new amenities.			
80. Seek and apply for grants as they become available to provide new amenities and improvements at conservation areas.	Conservation	Ongoing	-
81. Seek funding for pet waste stations at Mill Pond.	Conservation, DPW	Ongoing	-

Action	Responsible Party	Year	Potential Funding Source
Objective K-2 Identify and prioritize sites and needed amenities.			
82. Identify and prioritize conservation areas that could benefit from new or improved signage, including site name, allowed and prohibited uses, carry-in/carry out policy, trail signs, and informational kiosks.	Conservation	2019	-
83. Create a schedule of implementation for new/updated signage.	Conservation, DPW	2020	-
84. Identify and prioritize conservation areas that could accommodate parking or where existing parking could be improved.	Conservation	2020	-
85. Develop a schedule to develop new parking areas or improvements to existing.	Conservation, DPW	2021	-
86. Identify and prioritize conservation areas that could benefit from any additional amenities such as benches, picnic tables, bike racks, etc.	Conservation, DPW	2021	-
87. Develop a schedule for the installation of new amenities.	Conservation, DPW	2022	-
Objective K-2 Identify and prioritize sites and needed amenities.			
88. Coordinate with volunteer organizations, such as the Scouts, Burlington Conservation Stewards, and others, to help with installation of signage and other amenities.	Conservation	Ongoing	-

Goal L: Increase public awareness and use of conservation and recreation areas and activities

Action	Responsible Party	Year	Potential Funding Source
Objective L-1 Increase and improve general public outreach efforts about conservation and recreation areas through events, social media, and communications.			
Objective L-2 Promote year-round use of conservation areas.			
89. Revive the annual town-wide environmental clean-up and awareness event in conjunction with Earth Day.	Conservation	2019, ongoing	-
90. When space is available, present conservation area descriptions, map, and information in a Parks and Recreation Department's brochure.	Conservation, Parks and Recreation	2019, ongoing	-
91. Revisit the Conservation Department's page on the Town's website for needed updates and redesign.	Conservation	2020	-
92. Develop promotional materials that focus specifically on winter activities in conservation areas.	Conservation	2020	Grants

Action	Responsible Party	Year	Potential Funding Source
93. Use technology to provide access/knowledge of open space and recreation facilities.	Conservation, Parks and Recreation	2021	-
94. Submit occasional articles and press releases regarding activities and information. Encourage Conservation/Recreation Commission members to write their own letters to the editor that promote or highlight local facilities and activities.	Conservation, Parks and Recreation	Ongoing	-
95. Sponsor frequent outings at conservation areas year-round.	Conservation	Ongoing	-
Objective L-3 Increase and improve school-aged residents' environmental education and participation.			
96. Meet with the Burlington Science Center and teachers to offer support and encourage education on environmental topics.	Conservation	Ongoing	-
97. Encourage use of conservation areas, particularly those adjacent to schools, for curriculum related student visits.	Conservation	Ongoing	-

10 Public Comments

Public comments received are in Appendix A.

Letters of support from the Burlington Board of Selectmen, Burlington Planning Board and Recreation Commission as well as from the Metropolitan Area Planning Council are provided in Appendix G.

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