



BELMONT OPEN SPACE AND RECREATION PLAN

DRAFT FOR REVIEW AND COMMENTS ONLY

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1. PLAN SUMMARY

This plan was prepared for the Town of Belmont by the Belmont Open Space and Recreation Plan Working Committee appointed by the Board of Selectmen. The Plan's format and structure follow the guidelines provided by the Commonwealth of Massachusetts Executive Office of Environmental Affairs. The previous plan was submitted to the Commonwealth in 1979. This plan will be reviewed and updated every five years as required.

Rewrite Summary of actual 1997 findings: Survey results and Town Goals.

Much of Belmont's open space is privately held. With the potential closure of McLean Hospital and the existing development pressures there are no guarantees that this land will remain open. The impact of the development of this land would be significant and the character of the Town altered forever. This plan seeks to address this concern by presenting goals, objectives and actions that will guide Belmont's open space planning into the next century.

2. INTRODUCTION:

2.1 STATEMENT OF PURPOSE

Today as in 1979, when the last open space and recreation plan was written, providing opportunities for recreation at locations accessible to residents and preservation of the ecological balance and exhaustible natural resources of the community are our primary goals. One of the major factors preventing realization of the ideal in Belmont is the fact that our land resources have been almost totally developed, leaving very limited opportunity to expand the town's inventory of recreation or conservation lands. Other important considerations are the Town's fiscal capability to meet the total needs of the community, and the priorities assigned to recreation oriented activities versus other needs identified by the town. In light of these factors the most prudent course of action is to assess our needs, identify priorities and develop a plan to maximize the physical and fiscal resources available. Some ideas from previous open space plans have been realized, but the Town has lost opportunities to fulfill other open space goals, particularly those for land acquisition.

2.2 PLANNING PROCESS AND PUBLIC PARTICIPATION

In early Spring, 1996, the Board of Selectmen gave their approval for the creation of a Belmont Open Space and Recreation Plan Working Committee. The first meeting of the Working Committee was held March 28, 1996. Roughly 25 people representing various Town boards, commissions and themselves attended. The Committee broke into 4 subcommittees: community setting, environmental analysis, open space and recreation inventory, and community process. These subcommittees have worked tirelessly to produce this document. Regular meetings have been held since the first and notice of these meetings has been properly posted indicating time, date, and place. Each full committee meeting was attended by 15 to 25 people. Appendix 11.11 contains a list of the Open Space Planning Committee membership.

Public Participation. An initial survey was distributed at the Annual Town Meeting, Belmont Town Day, at a Garden Tour of Belmont, and the library. The responses to that initial survey

have been analyzed and the results were incorporated into the first draft plan. Communications with other Town boards has been completed and public hearings were held through out the Town during January and February of 1997.

In addition, a Town wide survey was designed by a volunteer consultant, reviewed and approved by the Board of Selectmen and distributed with the official Town census. The response rate was _____, over 4000 responses were received. The responses were loaded into a database and the results and analyses are provided in the Community Goals section. Access to the raw data will be provided for interested parties who wish to run further analyses.

3. COMMUNITY SETTING:

3.1 REGIONAL CONTEXT

3.1.1 GENERAL PHYSICAL LOCATION

The Town of Belmont is located along the rim of the Boston Basin (need definition) seven miles due west from downtown Boston. Approximately half of the total town area of 4.6 square miles¹ lies in a relatively densely settled region along the western edge of the Boston Basin coastal flood plain, divided into a low, relatively flat section averaging 20 feet elevation or less, and a rolling terrain section reaching a maximum elevation of 175 feet at the Payson Reservoir. The remaining half of the town lies in a less densely settled region that stretches up, onto, and over the Boston Basin Rim, reaching a maximum height of 230 feet along the crest of the Rim.

Belmont lies very close to the center of the Route 128 inner circumferential highway semicircle, making it one of the most centrally located western suburbs of Boston. The densely settled suburban Towns of Arlington and Watertown lie respectively to the north and south of Belmont, while the City of Cambridge, an active urban center of business, education and regional culture, lies to east. To the west lies the relatively less densely settled suburban Town of Lexington and the City of Waltham, a regional center of business and commerce.

Belmont's central location and excellent auto, bus, and train transportation infrastructure, providing rapid and easy access to many nearby centers of education, commerce, and industry, have been major factors in the town's transformation from a primarily rural farming community into the "Town of Homes" - an expanse of "green" residential neighborhoods with small centers of business activity, virtually no industrial development, and one of the lowest percentages of taxable commercial real estate in the entire greater Boston region².

The unique quantity and quality of Belmont's largely unprotected open space, approximately 20% of the total town area, is another important factor that has encouraged and maintained the town's residential character, and contributes significantly to the role that Belmont plays in its otherwise densely populated region. Much of this open space contributes to the overall "green" feeling of the town, while providing recreation resources to the citizens of Belmont, its neighboring towns, and the nearby population centers of Cambridge and Boston.

Approximately two thirds of Belmont's open space consists of a mixture of publicly and privately held lands, currently accessible to the public, that forms part of a continuous corridor of undeveloped and sparsely developed open space that begins on the rim of the Boston Basin, stretches past the town's western boundary into Waltham and Lexington, and continues beyond Route 128 into the much less densely populated Towns of Lincoln and Concord. This corridor uniquely contains large sections of woods and open meadows, in both wetlands and hillside settings, and represents a regional asset that is shared with, and used by, the residents of many surrounding towns for many forms of generally passive recreation. The corridor is also used as an alternative bicycle route to the Minuteman Bikeway, providing access to points west of Boston. In fact, plans for a new regional bikeway through Belmont are under active discussion.

¹ 4.655 square miles or 2,978.95 acres, "Town of Belmont, Annual Report, 1994".

² Reference to corroborate this statement will be supplied

The remaining open space is distributed throughout the eastern half of Belmont in several smaller parcels that provide both green space and active as well as passive recreational resources closer to the majority of the town's population. The high population density in this section of town leaves less room for open space, and encourages the sharing of open space resources with Belmont's neighbors. Several of Belmont's playgrounds lie near Cambridge and Watertown, and are shared with residents of those towns. Belmont residents seeking larger tracts of nearby open space frequently travel into nearby Cambridge and Watertown to visit Fresh Pond and Mount Auburn Cemetery.

3.1.2 EFFECT OF BELMONT'S LAND USE ON ADJACENT TOWNS

Belmont has several areas that enhance the region's beauty and character. Nonresidents as well as residents enjoy Belmont's open space and recreation destinations. The most notable are described as follows:

Rock Meadow (Concord Avenue - 70.2 acres), conservation land owned by the Town of Belmont, links the former Metropolitan State Hospital land with Beaverbrook Reservation and the McLean Hospital land in a regional greenway. Both visually and ecologically important, it provides visitors with opportunities for walking, bird-watching, picnicking, community gardening and ski touring.

McLean Hospital (Concord Avenue, Mill and Pleasant Streets - 241.96 acres), owned by McLean Hospital Corporation, a private not-for-profit corporation and member of Partner's HealthCare, Inc. is a large property of which only about 40 acres is developed. The property includes 200 acres which provides significant habitat diversity and supports a wide variety of plant and animal species, including several migratory bird species which are in decline. The property includes acres of woods, meadows, vernal pools and other wetlands that serve as recharge areas for brooks feeding into the Mystic and Charles Rivers. Although owned by a private not-for-profit corporation, the public is allowed to use the undeveloped areas for walking, trail biking, ski touring, and bird-watching.

Habitat Education Center and Wildlife Sanctuary (Juniper Road - 86 acres) is owned by the Massachusetts Audubon Society, a regional membership organization offering many educational programs for children and adults. The sanctuary, including the area known as Highland Farm, is also open to non-members on a per-visit fee. Visitors may enjoy walking and nature study, as well as scheduled events, courses, and programs.

Metropolitan Park (Concord Turnpike - 34.1 acres), owned by the Metropolitan District Commission, includes Little Pond (18.0 acres), feeds Little River, which becomes Alewife Brook, a tributary to the Mystic River. Recreational uses include exploring, walking, bird watching and canoeing. Wildlife walks and canoe trips are sponsored by the Mystic River Watershed Association.

Ogilby Property (a.k.a. Sergi Farms) (Blanchard Road - 10.3 acres), a privately owned property. It is the last and only working farm in Belmont and one of the nearest to Boston. There is a seasonal farm stand located on the site which is known through out the region and attracts many people from neighboring towns and cities as well as Belmont residents.

Clay Pit Pond and Park (Concord Avenue - 21 and 13.5 acres respectively) owned by the Town of Belmont, provides a scenic view from Concord Avenue as well as an open space destination frequented by walkers, joggers, anglers and bird-watchers. Recreation at Clay Pit Pond includes biking, cross country skiing and sledding. It also contains the Ruth Ippen Tree Walk and bank stabilization plantings. The area provides some flood control capacity during heavy rains; from the outlet water finds its way into the Alewife area.

Playgrounds (see maps-various locations) provide recreation that cuts across municipal boundaries. For example, Grove Street Playground attracts many young families from Cambridge. Payson Park Playground, located near Watertown, brings residents from that town. Joey's Park, newly renovated by a group of families and the Winn Brook Playground, with its elaborate climbing structure, draws families from many towns.

3.1.3 RESOURCES SHARED WITH NEIGHBORING TOWNS

3.1.3.1 Shared Regional Open Space Resources

Belmont shares a limited number of resources with other towns; they are unique in character and significant in providing links in the regional greenway. One of the critical values of Belmont's open space is its capacity to hold storm water runoff and prevent flooding. The recent severe flood (Fall of 1996) brought this issue to the forefront once again. The major elements of Belmont's shared open space include:

Beaverbrook Reservation: This MDC property consists of approximately 15.9 acres in Belmont and 10 acres in Waltham. It is the oldest property owned by the Metropolitan District Commission and was the subject of extensive restoration (1993) to celebrate the site centennial. It is a popular destination for both open space and recreational use. Sledding, skating, walking, picnicking, and water play in the renovated wading pool are the most common uses of this site. It is also a principal link in the regional greenway since it abuts both McLean Hospital and Metropolitan State Hospital property. As with many open areas in Belmont, the reservation provides additional "sponge" capacity for the high water table in this area.

Former Metropolitan State Hospital: This 240-acre property lies within the towns of Lexington, Waltham and Belmont and was recently approved by the state legislature to become an MDC reservation, with certain parcels further designated to become a public golf course, and many of the existing buildings to be refurbished to become public housing. The site is rich in wildlife and diverse habitats including wetland and vernal pools, meadows, brooks, mature woodlands and eskers. 6 acres in Belmont are wetlands. Although presently closed to the public, the site has been acquired by the MDC. It will be open to the public as a reservation accommodating multiple uses in the future.

Water Bodies: Belmont shares various water bodies with neighboring communities. *Little River*, *Alewife Brook* is shared with Arlington, Cambridge, Medford and Somerville. *Beaver Brook*, which is shared with Lexington, Waltham and Watertown, as well as its streams and wetlands, are part of the Charles River watershed. *Wellington Brook* and *Winn Brook* are part of the Mystic River watershed. Belmont's wetlands play a vital role in preventing flooding in the region.

Highways and Roads: Many connector routes pass through Belmont. The roadways that offer particular scenic or open space value are Pleasant Street (McLean property and rock outcrop-

pings), Concord Avenue (McLean property, Rock Meadow and Claypit Pond and Park), Mill Street (Beaver Brook Reservation and McLean property), and the section of Trapelo Road that passes through Beaver Brook Reservation. Because of Belmont's proximity to Boston, these transportation corridors contain some of the first glimpses of open space when traveling west from the city.

Wayside (check name) Bikeway: Belmont is actively involved in the evaluation of a proposal to create a new bikeway from Berlin, Massachusetts to Cambridge. Like the Minuteman Bikeway, the railroad right of way would be used for most of the bikeway. If adopted, this plan would connect Western Massachusetts through Belmont to Boston.

3.1.3.2 Shared Regional Open Space Planning Efforts

Belmont is a member of the **Metropolitan Area Planning Council (MAPC)**, a regional planning agency. The town actively participates in MAPC planning activities such as the Inner Core Committee in which residents of communities close to Boston meet regularly to discuss common interests, such as open space.

Belmont consulted the **Statewide Comprehensive Outdoor Recreation Plan (SCORP)** in its open space planning. The state Executive Office of Environmental Affairs produces the SCORP, which documents state recreation and conservation areas, their usage, and their managing entities. It also documents problems in providing recreation access and protecting resources. The last SCORP (1988-92 version) also had a second volume with an Action Plan. The next SCORP will be published in the near future. The town will provide the state with a copy of this Open Space and Recreation Plan for their use in developing the next state plan.

The **Metropolitan District Commission (MDC)** is developing a land use plan for the Alewife Brook Parkway area. The plan, entitled *Master Plan for the Parklands of the Alewife Brook and the Mystic River Parkways*, will contain ideas for upgrading the Alewife Brook Parkway area to make it more accessible and usable by the general public.

People from several communities have also served voluntarily on a citizen group called the "**Coalition for Alewife**" which works to preserve and enhance the Alewife Brook. This research and lobbying group includes members from Belmont, Arlington and Cambridge.

Insert Mystic River Watershed Assoc L. B.

Another recently formed group, the "**Alewife/Mystic River Advocates**", works to protect the Alewife Brook and Lower Mystic River watershed area. It has representatives from Belmont, Arlington, Cambridge, Medford and Somerville.

3.1.4 OPEN SPACE RESOURCES AVAILABLE IN NEIGHBORING TOWNS

Belmont's residents also enjoy various open space resources in neighboring towns. Some of the more scenic and popular open space areas include:

- **Alewife Reservation** (Cambridge)
- **Fresh Pond** (Cambridge)

- **Blair Pond** (Belmont/Cambridge border)
- **Mount Auburn Cemetery** (Cambridge)
- **Great Meadows** (in Lexington, owned by Arlington)
- **Menotomy Rocks Park** (Arlington)
- **Spy Pond and adjacent Spy Pond Park** (Arlington)
- **Arlington Reservoir** (Arlington)
- **Minuteman Bikeway** (Bedford, Lexington, Arlington and Cambridge)
- **Skyline Park / Robbin's Farm** (Arlington)

3.1.5 REGIONAL SOCIOECONOMIC CONTEXT

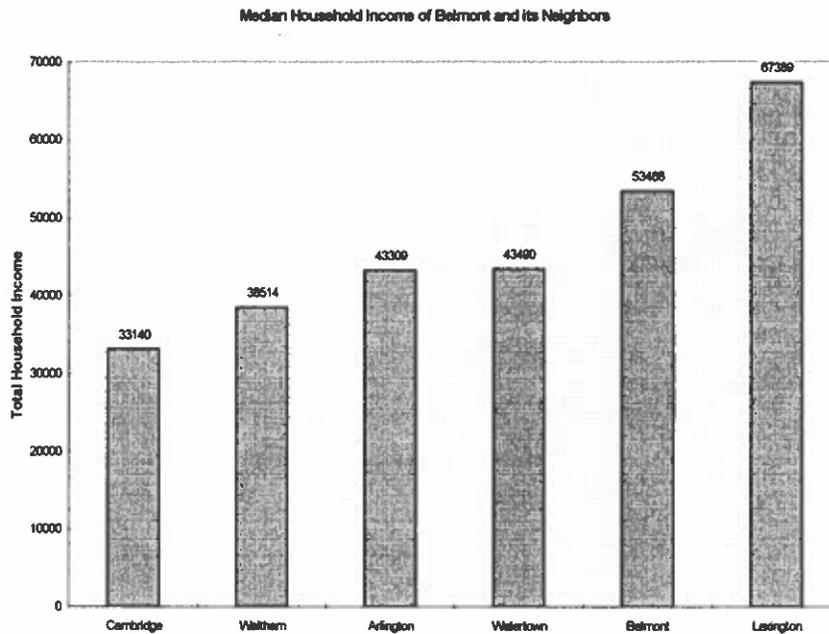


Figure 3-1 - Regional Median Income

Compared to most of its neighbors, Belmont can be classified as a relatively wealthy nearby suburb of Boston (Figure 3-1). In its early days, Belmont contained many summer estates owned by famous wealthy Boston families. Remnants of several of these estates still re-present a significant percentage of

the "Belmont Hill" section of town. Today, many of Belmont's residents, from a much broader economic spectrum, (Figure 3-7) are attracted to the town by its unique, visually appealing residential character, its excellent schools and fiscally conservative government, and its ease of access to the many nearby regional academic institutions and employment opportunities available in Cambridge, Boston, and along Route 128.

3.2 HISTORY OF COMMUNITY

The Town of Belmont was founded in 1859 when it was created by taking 2.82 square miles from West Cambridge, 2.26 square miles from Watertown, and 0.67 square miles from Waltham. The total population at the time was 1,175. In 1880, 0.89 square miles in the Fresh Pond area was re-annexed to the City of Cambridge. In 1938 and then in 1975 several tiny parcels were exchanged with Arlington, leaving the town with an area of 4.655 square miles.

3.2.1 EFFECTS RELATING TO BELMONT'S CENTRAL LOCATION

Prior to its incorporation, Belmont was sparsely populated, being made up mainly of large farms that grew produce for Quincy Market. The first population growth began in 1843, shortly after the Fitchburg Railroad was extended through what is now Belmont. The Waverley area was the first major development, starting in 1854, and was built up around the railroad station. At about that time, the Town attracted residents of Boston who built large summer homes and estates.

The next period of major growth took place starting in 1898, when the street car line was extended from Cambridge to Waverley Square. During the next ten to twenty years, one by one the large estates and farms abutting the street car line fell to land developers.

In 1906, a branch line was laid out cutting across the town to Belmont Center, thus opening up other large areas to development. A small business area grew in and around Belmont Center as a result of the railroad, as did a few small residential developments near by. But as a result of the street car line, more and more formerly "isolated" land became available.

The most significant period of growth in Belmont took place between 1920 and 1940, when the population grew from 10,744 to 28,866. The Town adopted zoning in 1925, with most of the then-vacant land zoned for single family homes.

The business areas were mostly the earlier commercial sections - Waverley Square, Belmont Center, Cushing Square, Harvard Lawn - all of which had originally grown as a result of the railroad and street car lines. Over the last few decades the business activity levels of these small commercial sections has generally been declining with the increased availability of large shopping complexes within relatively short distances from Belmont. Because of the small amount of commercial districts and the large number of residential areas, Belmont is known as "The Town of Homes."

3.2.2 HISTORIC AND ARCHEOLOGICAL RESOURCES

Belmont's historical resources, consisting of institutions, structures, and historical farmland, are described in sec 4.6.3 below.

3.3 POPULATION CHARACTERISTICS³

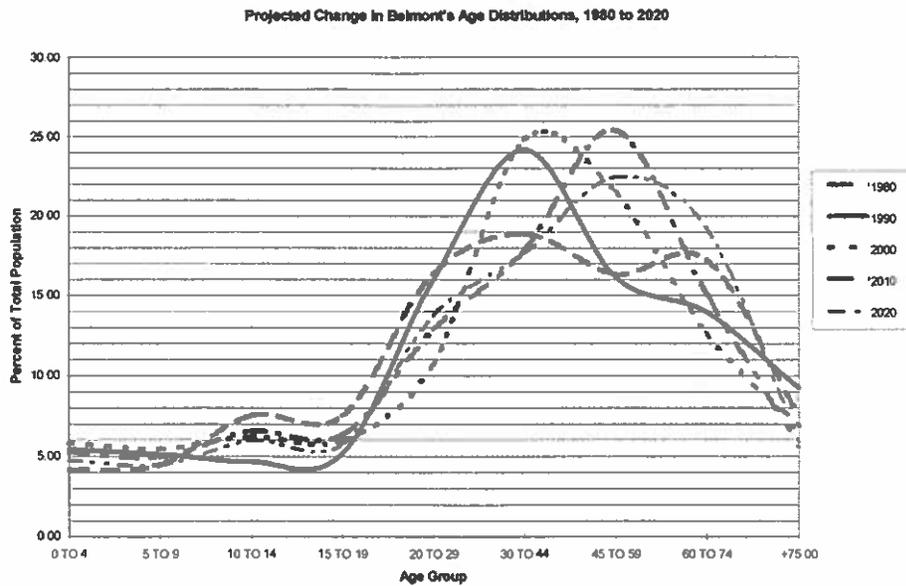


Figure 3-2 - Age Distribution by Year

is now approximately one decade into a significant reversal of the aging process, with many new and relatively younger families, with parents in their 30's to 40's, moving in to replace elderly former residents. Thus, as we will see, we can expect a significant increase in the number

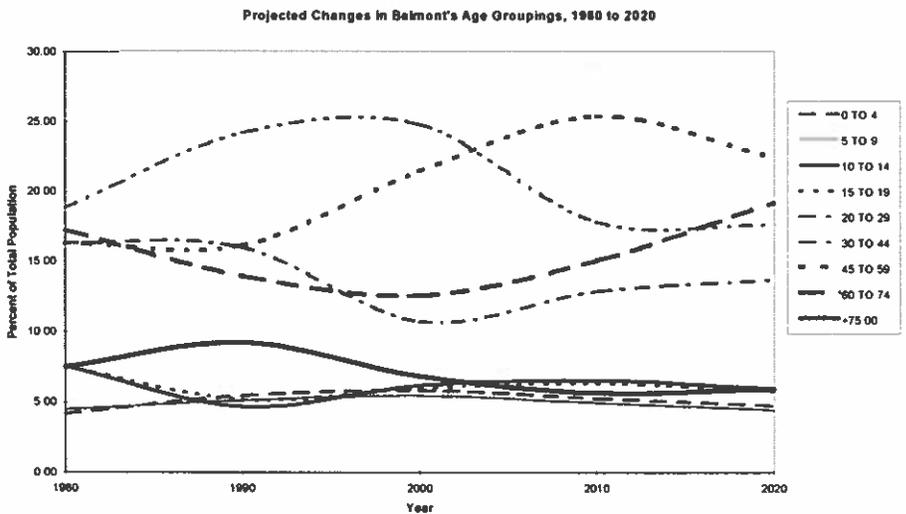


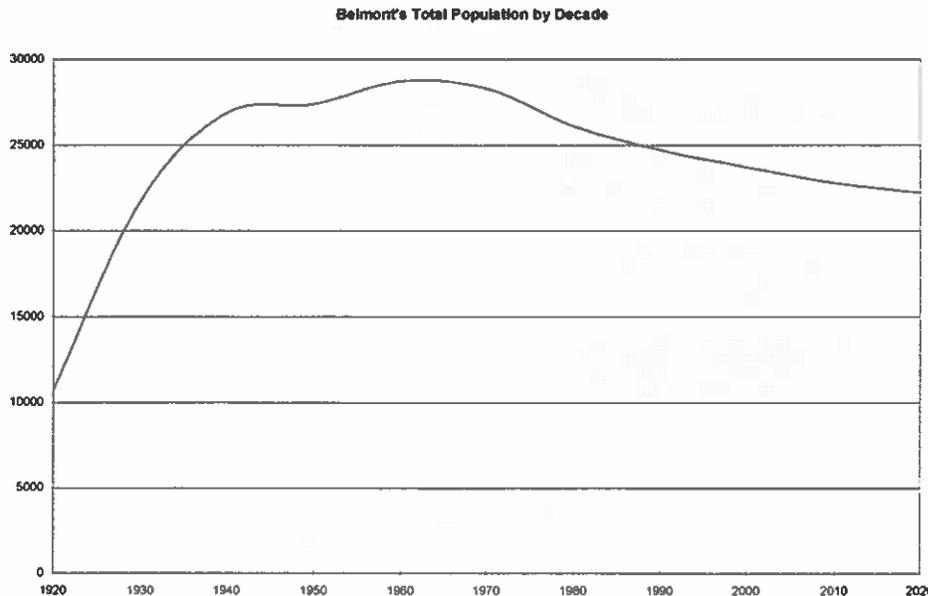
Figure 3-3 - Age Progression by Group

Belmont has seen no significant new residential or commercial development for the past thirty years (Figure 3-6). Many residents settled here in the World War II era and have remained here well into their retirement years. As a result, until recently, Belmont's population has been generally decreasing and growing older as this demographically significant group of residents gradually aged (Figure 3-2 and Figure 3-3). The town

of middle aged residents, a decrease in the young adult population, a reversal in the declining older age resident populations, and, with the exception of early teens, essentially no significant changes in the school age population over the next twenty years *provided there is no significant new development activity.*

³ Unless noted otherwise, all population and income statistics quoted in this section was obtained from the MAPC analysis of the 1990 Census data and from other MAPC data banks. Please see next footnote.

3.3.1 POPULATION TRENDS



Belmont's total population has consistently been declining from a peak of 28,794 in 1965 to the present figure of 25,349. This decrease in population is part of a trend of diminishing population that is projected to continue well into the 21st century. The Metropolitan Area Planning Council predicts that Belmont's population will be 22,205 in the year

Figure 3-4 - Total Population

2020⁴, with a declining percentage of children under 9, an increasing number in the 10-14 year-old age group, declining for the 15-44 age group, and then rising again for ages 45-75.

3.3.2 ISSUES RELATING TO POPULATION DENSITY

Lucille and Nancy will clarify

3.3.2.1 Housing Density

Housing units in Belmont vary from large, single-family houses in spacious residential neighborhoods to multi-unit structures with two to four units per building in areas of high population density and close proximity. There are a few apartment and condominium structures with greater than 10 units. Slightly less than half of all housing units are detached, single-family structures. A nearly equal number of all housing units, approximately 44.3%, are multi-unit structures of up to four units. Nearly 60% of the 9968 total housing units are owner occupied, while the remaining 3905 units are rental properties. (Jeff will add expansion)

⁴ "Belmont, Population Forecast," prepared by the Data Center of the Metropolitan Area Planning Council, December, 1995. Known hereafter as BPF.

3.3.2.2 Population Density

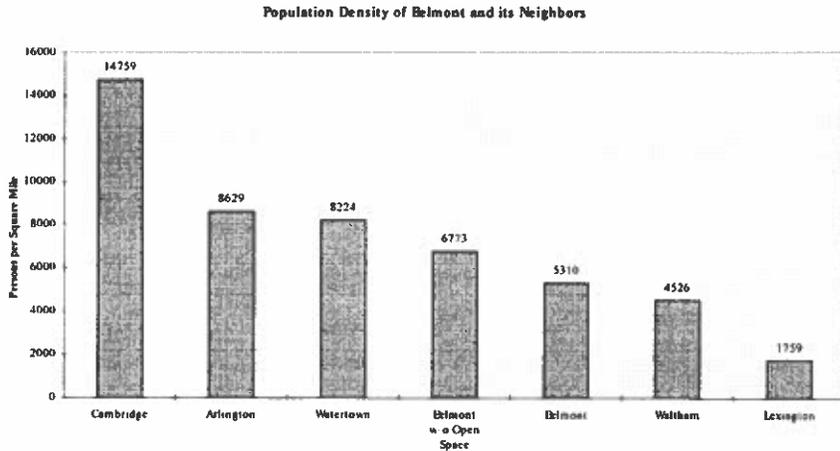


Figure 3-5 - Regional Population Density

Belmont has neither the low population density of its nearby western neighbors, nor is it--an inner core suburb--quite so densely populated as its remaining neighbors (Figure 3-5). Within the context of this Open Space Plan, it is relevant to point out that Belmont's population density is based upon the total town area. Approximately 22% of the land in the town is currently undeveloped conservation land or undeveloped private property that lies in a contiguous area on Belmont's western border. If this open space is not included in the total land area, the overall population density becomes 6,773 persons per square mile, more representative of Belmont's actual housing density. This fact is one reason that Belmont needs to work diligently to preserve, protect, and improve its existing open spaces throughout the entire town.

3.3.2.3 Building Trends

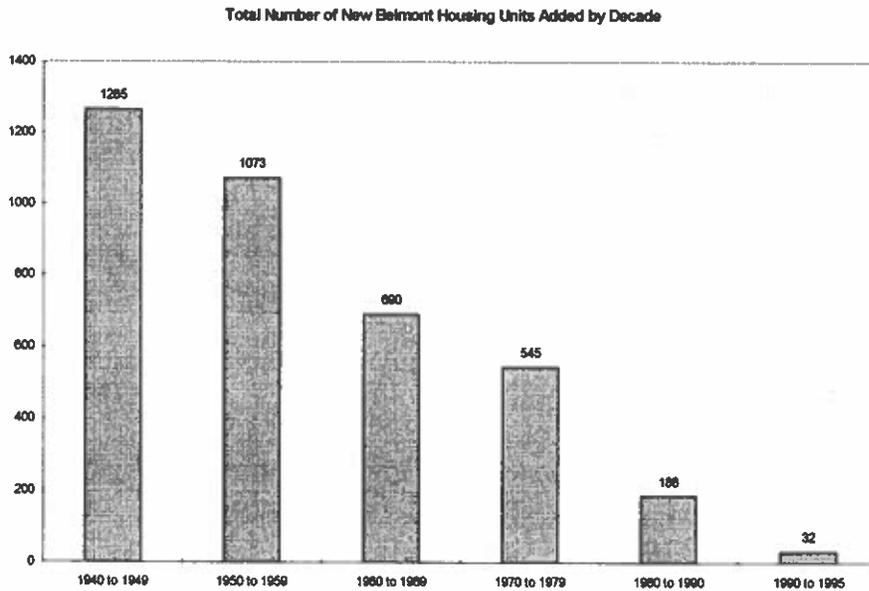


Figure 3-6 - New Housing Units

As the accompanying Figure 3-6 clearly indicates, Belmont, with a total of approximately 10,000 housing units, for all practical purposes, has been a fully developed town for the last twenty years.

Virtually all of the remaining (privately owned) buildable land in Belmont is currently zoned as large lot single family dwellings. Most of this land consists of two large parcels, McLean Hospital (with up to 200 buildable acres) and the Belmont Country Club (with 130(Jeff) buildable acres).

The likelihood of new industries moving into the community is not great without zoning changes, but in the past, pro-

posed developments have included the relocation of Lahey Clinic and a major Alzheimer's unit at McLean. The more likely threat to the open space would be additional residences and perhaps assisted living residences, should McLean Hospital, which is now experiencing financial difficulty, decide to sell off approximately 120 acres of open land and 80 acres of its currently abandoned outer campus for development.

3.3.3 POPULATION COMPOSITION AND FAMILY INCOME

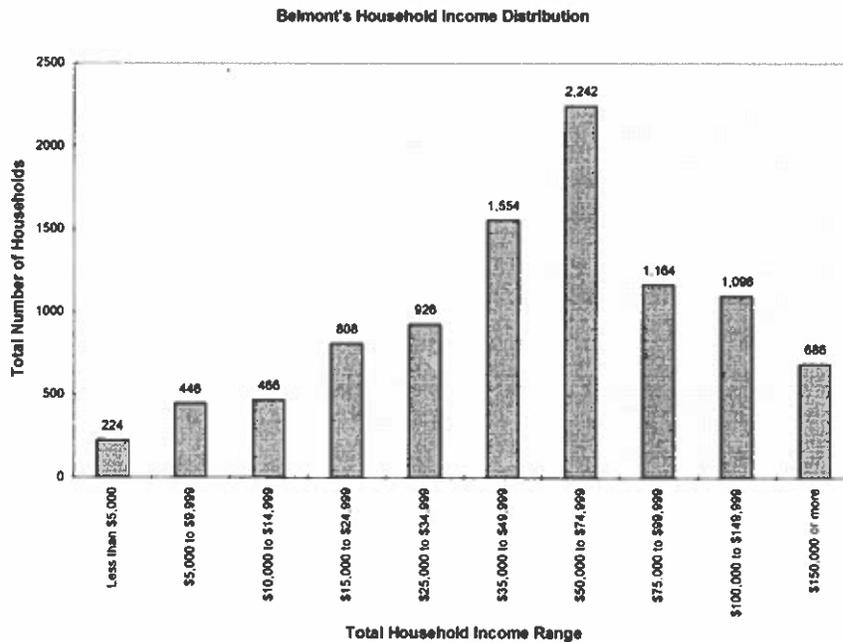


Figure 3-7 - Household Income Distribution

mobility or self-care limitations. This represents 8.4% of the total population in this age range. Slightly more than half of the disability population is over age 65.

Of the 9,614 households in 1990, the largest proportion (about one-third) consisted of a husband and wife with no children living at home. Over half of the 52% of the population who were employed worked in a professional specialty or executive/managerial occupation. Median income was \$53,488 per year. Twenty per cent of the households earned less than \$25,000 per year and just over half earned between \$25,000 and \$100,000 per year.

The 1990 Census lists a total of 1,717 persons, aged 16 and older, with

3.3.4 INDUSTRIES, EMPLOYERS AND EMPLOYMENT TRENDS

Belmont has no significant industries other than McLean Hospital, which has seen its staffing level drop from over 2000 employees in 1990 to the current level of approximately 900. All of the relatively small number of remaining industries employ less than 100 employees per establishment and are mostly clustered in the service sectors.

3.3.5 DISCUSSION OF ANTICIPATED OPEN SPACE NEEDS

Each of Belmont's age groups have somewhat different requirements for, and usage of, the town's open spaces. These needs are briefly summarized here and covered in more depth in later sections. (update from survey results needs rework)

Seniors' Needs: Belmont's Senior citizens represent approximately 25% of the total population. This group will need continued access to nearby open spaces for walking, nature watching, and other generally passive recreational activities. These spaces must be designed with suitable rest areas and safe pedestrian access corridors. In addition, this group has expressed unique requirements consistent with the life long resident status characteristic of many Belmont residents. These requirements include an assisted income retirement community (with nearby open spaces) and a new town cemetery. Conceptually, the purchase of some (now surplus) land from McLean Hospital offers the only practical short term solution to these two Senior issues.

Adults' Needs: The young adults group, from 20 to 29, will decrease from 16% to 12% of the total population and then increase again as the teen group ages. This group typically uses open spaces for active sports activities.

Adults from 30 through 45 are projected to be the one of largest growing population segments, rising to approximately 25% of the total population and then decreasing by about 6%. This group will need the existing open space to be protected in order to continue to enjoy the walking, jogging, nature watching, biking, hiking and cross country skiing activities currently available within a five minute commute.

The 46 through 60+ age groups tend to shift more towards the passive activities listed above. This age group is projected to grow the most, from 16% to 25%, in the next two decades.

School Age Children's Needs: This age group, roughly 15% of the total population, will need play fields and athletic facilities. The size of the teen age group is expected to increase in the next decade. This fact, along with the loss of some existing recreational facilities due to construction of a larger Middle School, makes acquisition of open space to support the creation of new playing fields a priority for this age group.

Preschool Age Children's Needs: Approximately 5% of the town's population is under age 5, and this population segment is projected to remain steady until 2020. Parents of toddlers need to have safe playgrounds within a short stroller walk. Belmont currently lacks sufficient playgrounds north and west of Pleasant Street; indeed most facilities in this area belong to one of several private schools. Parents in remaining sections of town complain about the poor condition and overcrowding of existing playgrounds.

3.4 GROWTH AND DEVELOPMENT PATTERNS

3.4.1 PATTERNS AND TRENDS

As mentioned earlier, Belmont had reached its maximum population level by the beginning of the Second World War. The majority of buildable lots had been developed by that time, and as a result, there has been little additional development in the town since then.

A number of observations can be made about the processes by which the town was developed and the impact that these processes will have upon any future changes in the town.

Belmont's proximity to the cities of Cambridge and Boston has greatly affected its development as a residential community. The agricultural land that had characterized the town in its early days was rapidly converted to housing units during the first half of the twentieth century. The density of much of this development far exceeds the limits now allowed for any new development. Except for a handful of existing town-owned playground areas and parks, little allowance was originally made for public open space or parklands.

Despite this fact, many of Belmont's neighborhoods enjoy quiet, tree-lined streets and mature plantings which give the town a feeling of gracious tranquillity. Throughout its history, the town and numerous citizen groups spearheaded by the Garden Club, have made a sustained effort to plant and maintain the town-owned curbsides, intersections and deltas. This process continues today and the results are seen in the large number of tall trees that beautify our neighborhoods, along with occasional small areas of grass and plantings. These features make a significant contribution to the feeling of the town which most of our citizens appreciate and value.

It is possible that the current overall character of the town will remain unchanged in the coming decades. However, it must be recognized that there exist a number of undeveloped areas within the town that can still be developed. Were some or all of these areas to be converted to residential or commercial use, the impact on the community could be dramatic.

Belmont currently has zoning regulations for individual residential units that are likely to be effective in maintaining the character of most of the established residential areas. But the possibility of additional, large-scale development cannot be overlooked. The town needs to consider whether its current regulatory and planning apparatus is sufficient to facilitate the positive evolution of future development processes. It is one of the purposes of this Open Space Plan to identify some of the appropriate goals that Belmont should set in the area of future growth and to propose steps that the town can take to maximize the value to its citizens of our remaining open space and of any changes to the use of these lands.

The changing demographics of the town were mentioned in a previous section. These facts are relevant to the purpose of this Open Space and Recreation Plan because of the differing needs and desires for open space that are common among members of different age groups. If we divide the use of open space into the categories of passive and active recreation, we can see that utilization of open space for these two purposes tends to differ among groups of different age.

Active recreation, such as basketball, tennis, soccer, baseball and running are important uses that are most common among the school-age and young adult segments of our population.

"Passive" forms of recreation, such as walking, bird-watching, gardening or sitting are more popular among the older portions of the town's population. For this reason, it makes sense when contemplating the future uses of the town's open spaces to consider the types of recreation that its citizens are most likely to use. We must seek to balance the development of our open spaces in order to meet the needs of these different population groups.

The portion of the town's population that is physically disabled in some way is also significant. As the population ages, the number and the needs of such people will also increase. This Open Space Plan must also take the needs of this part of our population into account.

3.4.2 INFRASTRUCTURE

Belmont's town-managed infrastructure consists primarily of roads and highways, water supply and sewerage and drainage systems, and the electric distribution network. Other parts of the infrastructure not under town control are the natural gas systems, cable television and telephone lines. Each of these components of the town have affected, and will continue to affect, the quality of life in the town and the availability of open space and recreation lands. The transportation system also links Belmont to the rest of the region's communities and makes the town's resources available to citizens of neighboring cities and towns.

This section will discuss the parts of the town's infrastructure that are most under the town's control.

3.4.2.1 Transportation Systems

Within its 4.65 mile area, Belmont has 85.86 miles of public and private roads⁵. It is bounded on its north by a major freeway, State Route 2, providing convenient access to the Alewife Station (the western terminus of the MBTA Red Line), the western communities, and Interstate Route 95, which lies approximately five miles west of the town. This highway can also be reached by traveling approximately five miles along one of several radial intersecting secondary access routes which pass through nearby Arlington, Waltham, Watertown, and Lexington. (What are they?) Two heavily traveled roads connect the town to Cambridge, providing easy access to Cambridge and downtown Boston. This central network of roads and highways also makes Belmont a convenient destination for residents of these surrounding communities. This ease of access to both city and country has been an important factor in our town's development throughout its history.

In addition to these automotive transportation routes, Belmont is served by several public transportation routes that provide easy access to the town and to much of its remaining open space corridor. Three MBTA bus routes cover the town's northern and southern sides and connect to Harvard Square. The Waverley Square bus route terminates within easy walking distance of the MDC Beaver Brook Reservation and other nearby open space destinations. An MBTA commuter rail line also serves the Waverley Square area as well as Belmont Center, connecting these locations with destinations in Cambridge and Boston to the east, and with western communities such as Lincoln, Concord and Fitchburg in the west.

⁵ Town of Belmont, Annual Report, 1994, P. 174.

Belmont's Council on Aging also provides transportation to destinations within the town's borders for the town's elderly community by a service known as the Belder Bus.

This system of roads and public transportation makes Belmont an easy town to gain access to. In many locations they also present some restrictions on the use of existing land. One example of this is the strip of MBTA-owned land that runs through the center of town and through which the commuter rail line runs. This land cannot be developed, and provides very restricted public access. In some locations it may be considered an aesthetic problem, while in others it is an attractive part of the town's scenery.

Roads in other areas affect the accessibility and safety of town-owned open space. But they also create numerous small parks or "deltas" at their intersections, where benches are located and town citizens place and maintain plantings. (Garden Club) These parks are an important component of the attractive nature of the town's neighborhoods and they provide a sense of openness even in densely developed areas. In considering the town's requirements for open space, such small amenities should not be overlooked.

3.4.2.2 Water Systems

100 percent of Belmont's homes receive their water supply from the Massachusetts Water Resources Authority. There are few if any wells within the town. The town is crossed by a number of small streams, which are open in many places. While this water is not suitable for drinking, its relative cleanliness is an important asset. The presence of serious pollution in these streams or any of the Town's ponds would present a serious public nuisance.

These streams and ponds also play an important role in the drainage of the town and are important sources of the region's major rivers, the Charles and Mystic Rivers.

3.4.2.3 Sewer Systems

Belmont's sewage is disposed of by the MWRA. 98.4 percent of the town's buildings are served by this system. Storm run-off from the town's roads is discharged into a system feeding Claypit and Little Ponds, which lie within the town's borders. These ponds flow into tributaries of Alewife Brook, which eventually flows into the Mystic River and from there into Boston Harbor. (Add "and is often compromised during heavy rains such as the storm of 1996").

The western part of the town is home to Beaver Brook and Mill Pond. This system of streams drains a large wetland on the Belmont-Lexington Border and also provides drainage for wetlands and hills in Waltham in the former Metropolitan State Hospital lands. This area of town eventually flows into the Charles River.

This system of rivers and ponds, and the wetlands associated with them, plays an important role in the area's ability to withstand periods of heavy precipitation and springtime snow melts. There have been reports of rising water tables and more frequent flooding by residents of the areas around the town's ponds. These changes may be the result of recent development that has eliminated some areas that were previously wetlands.

Because of the amount of water within the town, it is clear that preserving the quality of these drainage and holding systems is of definite value to the town, and in some cases, to the entire region. The aesthetic and ecological value of this wide variety of aquatic zones should also be considered.

3.4.3 LONG-TERM DEVELOPMENT PATTERNS

3.4.3.1 Zoning

Figure 3-8 - Map of Belmont Zoning Districts

Zoning activity started in Belmont in 1903 with the Selectmen acting as the Board of Survey to approve street layouts. Zoning by-laws were formally adopted about 1925. Thereafter, as problems developed, changes in the by-law were made in response to specific situations. Changes to the zoning by-laws have been made as recently as the 1995 Town Meeting. The present town zoning by-law places the largest tracts of open land in SA (Single Residence A) and SD (Single Residence D) which allows for single-family dwellings on minimum 25,000 square foot lots. The Town's cluster zoning provisions would allow smaller house lots in return for open space, and could allow detached dwelling units. Minimum cluster tract size is 180,000 square feet for the SA and SD districts, but runs from 84,000 to 120,000 square feet for SB (Single Residence B), SC (Single Residence C), and GR (General Residence) districts.

In Belmont, the Planning Board serves as an Advisory Board to the town and the Board of Selectmen, unlike other towns where it has specific responsibilities according to statute. Belmont also has a Board of Appeals which is a permit and special permit-granting authority, authorized to act on appeals, special permits, and variances. Belmont is unlike most towns in the Commonwealth in that the Board of Selectmen acts as the Board of Survey which means that it has the final authority over the technical compliance governing the layout of the streets in Belmont. Design and site plan review are required for special permits for public building, school conversion, elderly housing, cluster development, and major business development. The applications must be submitted to the Board of Appeal which then gives them to the Planning Board for recommendation; but the Board of Appeal makes the final decision as to whether or not the special permit -with or without special conditions- shall be granted. The Planning Board makes determination where a special permit is not required.

3.4.3.2 Narrative of Maximum Build-Out

Using the report prepared by Philip B. Herr & Associates for the Belmont Planning Board (Appendix 11.1) (DATE), it is possible to extrapolate what would happen if the large tracts of open space in SA, SD, and smaller tracts of over two acres in other parts of town were to be developed under the existing zoning bylaws. Using the "Preliminary Inventory of Open Space" prepared by Richard Betts, April 1, 1996 (Appendix 11.2), a list of all open areas of two acres and above, not designated as conservation, playground, or park space and therefore subject to development under the existing zoning bylaws, gives an overall total of 426.5 acres. Using Herr's ratio for typical SD or SA development, with lots of a bit over 25,000 square feet and 3,000 square foot houses, plus 20% of area "lost" to roads and wetlands, there would remain 341.2 acres which could be developed. Using the 25,000 square foot figure for SA and SD lot sizes, it is conceivable that an additional 598 residential dwellings could be added to the town,

with the majority of them in the area north of Pleasant Street. An increase of this magnitude would have a definite, if not negative, impact upon the town of Belmont, placing additional pressure upon town departments already struggling to maintain services under the limitations imposed by Proposition 2 1/2. If maximum buildout occurs, it is likely that a new elementary school would need to be built to accommodate additional students, and the existing high school would need more space as well. (A new middle school is in the process of construction and presumably could handle the additional number of students that 550-600 new households would add to the school population (Questionable overload capacity add incr tax counter argument).) There would also be increased demand for fire and police protection as well as for other town services.

Recognizing the potential impact of unrestricted large scale residential development, the Belmont Planning Commission spent the fall of 1995 and spring of 1996 preparing a "Major Residential Development" zoning article that would gear large scale subdivisions, such as might occur at McLean Hospital or the Belmont Country Club, into Cluster Development under Site Plan Review. This article was tabled at the spring 1996 Town Meeting in deference to McLean Hospital to encourage them to remain on their campus in Belmont and cooperate with the town while they undergo a land use review. The article remains available to be enacted in the event of a change in the political climate.

3.4.3.3 Ecological Impacts

Using the Area-by-Area Analysis of Open Space on the McLean Hospital Property, prepared by Nancy Childs for the Belmont Conservation Commission, August 31, 1995, (Appendix 11.3), it is possible to extrapolate the ecological impact of development on the remaining open spaces described in section 3.4.3.2. Further development would greatly impact the habitat of flora and fauna by further fragmenting the integral part of the regional greenway that is contiguous to other conservation land in Belmont, Waltham, and Lexington. The importance of regional greenways and corridors cannot be overemphasized since open space in metropolitan Boston is increasingly succumbing to development and the preservation of regional greenways is essential to the ecological integrity of this area. Development has already had an adverse effect on wetlands in the town by increasing run-off and localized flooding. It would increase the impact of traffic with its accompanying noise and pollution as well as reduce the visual and environmental amenity that open space brings to the citizens of the town.

4. ENVIRONMENTAL INVENTORY AND ANALYSIS:

4.1 GEOLOGY, SOILS, AND TOPOGRAPHY

4.1.1 SOIL TYPES AND THEIR EFFECTS ON BUILDING SITE DEVELOPMENT

A soil survey map of the town is available from the Soil Conservation Service Middlesex Conservation District. The soil mapping delineates the various soil types throughout the town. A description of each soil type including the suitability of the soils for many land uses is also furnished by the a Soil Survey Report ("Middlesex County - Massachusetts - Interim Soil Survey Report, Second Edition, July 1986 by Middlesex Conservation District").

Based on the soil characteristics, the degree of limitation to building site development is classified as low, moderate or high limitations. **Low limitations** indicates the soil's properties are favorable for development and any limitation is minor and easily overcome. Typically, the low limitation soil group is moderate to well drained gravely and sandy materials with suitable depth to the ground water table with low to moderate slope.

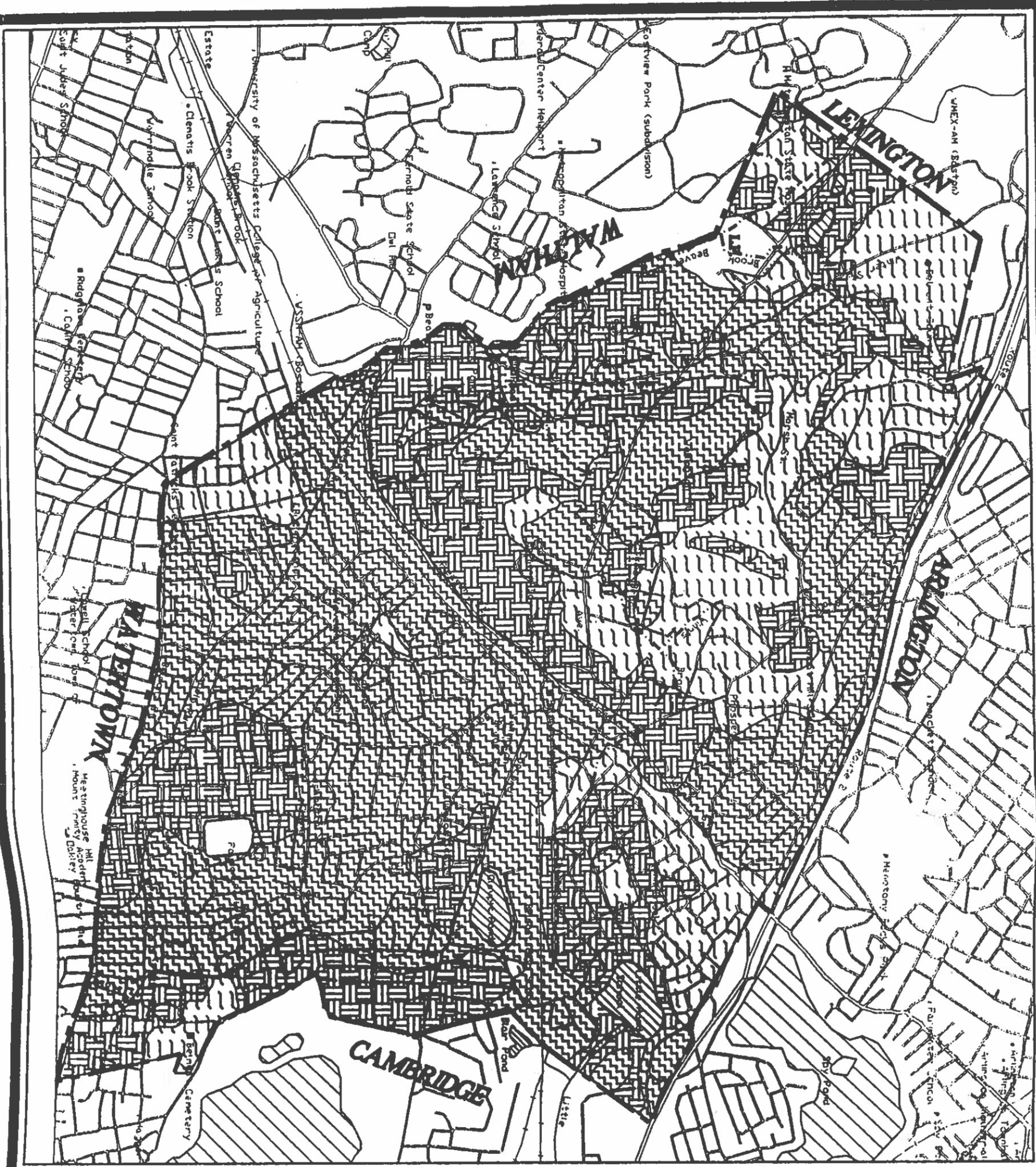
Moderate limitations indicates soil properties and site features unfavorable for development, but the limitations can be overcome or minimized by special planning and design. The moderate limitations soil group consists of a mix of soil types such as silt/clay, organics, rocks and sand/gravel. Moderate limitations can be caused by wetness due to limited depth to ground water, moderate to significant slopes creating erosion hazards, rocky conditions increasing difficulty for excavation, organic and clay/silt materials limiting foundation support capacity.

Severe limitations indicates soil properties or site features so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. This soil group includes areas with substantial amount of rock or ledge, year-round high ground water table, severe slopes (15 - >25%), or unstable materials with little bearing capacity.

Figure 4-1 presents an overlay of the three soil types grouped by development limitations. The predominant soil type group is moderate development limitations. The low limitations and severe limitations soil groups which make up the remainder are about equally divided.

In relation to the remaining unprotected open space in town, the large tracts of land containing soil groups of low and moderate development limitations include McLean Hospital, Belmont Country Club, Audubon Land, Belmont Hill School, Arthur D. Little. Of the preceding, the McLean Hospital and Arthur D. Little private property parcels would be the most likely to see future development on a large scale without acquisition of the open space or implementation of conservation restrictions.

Figure 4-1 - Map of Belmont's Soil Types Grouped by Development Limitations



LEGEND

TOWN BOUNDARY

STREAM/BROOK

WATER BODY

LOW LIMITATIONS

MODERATE LIMITATIONS

SEVERE LIMITATIONS

LF. LANDFILL SPACE

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

**SOIL TYPES GROUPED BY
DEVELOPMENT LIMITATIONS**

FIGURE 4-1

4.1.2 TOPOGRAPHY

The topography of Belmont is dominated by two predominant geologic features, Wellington Hill located north and west of Pleasant Street, and Meetinghouse Hill located in Watertown, immediately south and adjacent to Belmont Street. Wellington Hill rises to an El. 288 ft opposite Somerset St. with a steeply south facing rock outcrop slope between Belmont Center and Waverley Square. Meetinghouse Hill is more gently sloping on its northern flank, the portion in Belmont that defines the topography between Fresh Pond to the east and Waverley Square to the west. The highest elevation in this area is approximately El. 164 ft with grades sloping downward to El. 49 ft to the east, north and west. The relatively flat Winnbrook lowlands area (El. 10 ft to El. 33 ft) is located east of Pleasant Street and north of Concord Avenue. Elevations are referenced to mean low water datum and are stated in feet.

4.1.3 OVERBURDEN SOILS

The land area of Belmont as indicated by the topography is dominated by two distinct hills that consist of shallow bedrock overlain by glacial till, an unsorted mixture of silt, sand and clay with numerous boulders and cobbles. The Winnbrook area located north and east of the bedrock controlled hills of Belmont is underlain by a thick deposit (80 to 100 ft.) of marine clay and sand. In the past, the clay was mined to make bricks at the Parry Brick Yard, producing up to 300,000 bricks per week. The remnants of this brick manufacturing is Clay Pit Pond located on Concord Avenue in front of the High School. Much of the land area of the Town was previously used for agricultural purposes, having a loam topsoil.

4.1.4 DEVELOPMENT AND RECREATION OPPORTUNITIES

As discussed earlier in this section and illustrated in map form (Figure 4-1), land within the Town is typically suitable for development of either residential or recreational facilities with the principal exception of the steeply sloping area along the south face of Wellington Hill. Development of playing fields will generally require earthwork to create level areas for fields. Excavations within hill portions of the Town may encounter shallow bedrock or numerous boulders or cobbles in the near surface soils.

4.2 LANDSCAPE CHARACTERISTICS

Belmont's most notable expansive vistas are from the McLean Hospital property looking generally westward over the protected open spaces of Rock Meadow and the Met State Hospital lands. This rural vista typifies historic Belmont as shown in the recent showing of a painting by Winslow Homer, "Boys in a Pasture", depicting two young farm boys in a field adjacent to the current Audubon Highland Farms property.⁶ Efforts to preserve Rock Meadow and the McLean Hospital lands in a rural character date back to the last century.

⁶ According to Dick Betts, the painting depicts the site of the present day Belmont Hill Tennis Club.

The larger Belmont Hill landform, of which the McLean lands are part, are in the north-central to north-western area of town. They provide the only sizable relief in an otherwise quite level and unremarkable terrain.

4.3 WATER RESOURCES

Figure 4-2 - Map of Belmont's Water Resources

4.3.1 SURFACE WATER

4.3.1.1 Drainage Areas and Tributaries

Belmont falls within the drainage areas of two river basins, the Charles River and the Mystic River. The drainage divide of the two watershed areas is defined by a ridge of peaks of the hills of McLean Hospital and Belmont Hill. Surface drainage from the western portion of the Town is tributary to the Charles River Watershed while the remaining surface drainage flows to the Mystic River. The surface waters of the two large river basins and the smaller sub-drainage areas within Belmont are shown on the Water Resources Map (Figure 4-2).

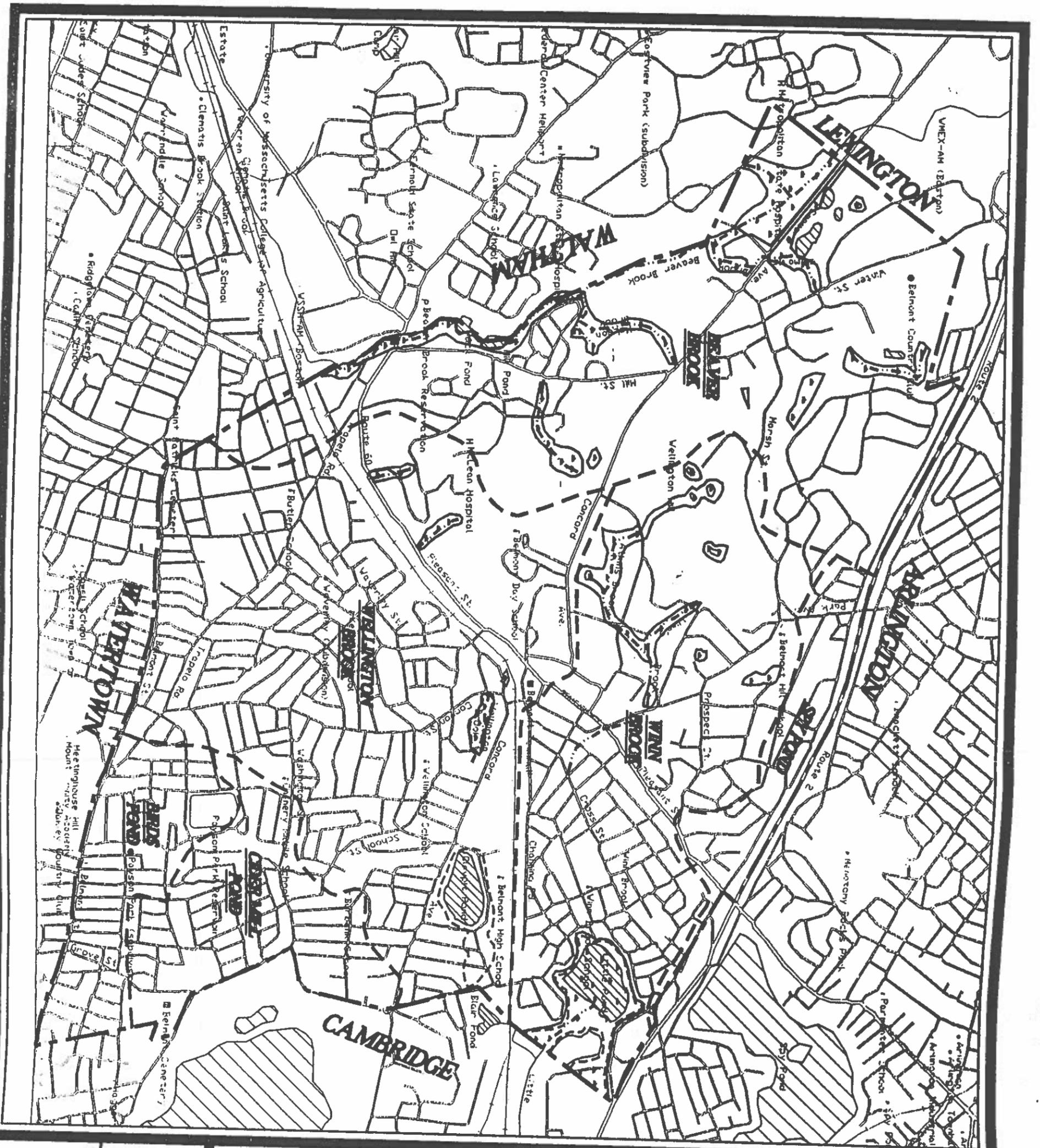
The surface water systems of Belmont which lie within the Charles River Watershed, include Clematis Brook, which crosses through the Belmont Country Club, and Beaver Brook, which forms a boundary with neighboring Waltham. In addition, a small stream named McLean Brook, which meanders through the Rock Meadow Conservation Land, joins Beaver Brook just beyond the conservation land. Duck Pond and Mill Pond, both fed by Beaver Brook, are located on an MDC Reservation of the same name.

The surface water systems of the Mystic River Watershed in Belmont are divided into two sub-drainage areas. North of the commuter rail line and Concord Avenue, surface drainage flows into Little Pond which outlets to Little River and Alewife Brook before reaching Mystic River. The southern sub-drainage area feeds Clay Pit Pond and Blair Pond, located just over the boundary with Cambridge.

Tributaries to the Little Pond drainage area are Atkins Brook, Winn Brook and Spring Street Brook. Connecting Little Pond to Alewife Brook is Little River. Much of the aforementioned brooks are culverted under residential developments and are therefore inaccessible. Clay Pit Pond is fed by Wellington Brook originating at Pequossette Playground, winding past the Town Yards, paralleling the commuter line and Concord Avenue passing behind the main library before entering the pond. Most of Wellington Brook is culverted including the Clay Pit Pond outlet connection to Blair Pond up to Brighton Street.

There are a number of small unnamed spring fed streams on the property of McLean Hospital as shown on the water resources map of Belmont.

Although not considered as a Town water resource, the city of Cambridge maintains a concrete covered water supply reservoir located in the Payson Park section of Belmont.



LEGEND

--- TOWN BOUNDARY

- - - DRAINAGE AREA

- · - · - STREAM/BROOK

▨ WATER BODY

- - - FLOODPLAIN (100 YR)

▨ WETLANDS

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

WATER RESOURCES MAP

FIGURE 4-2

4.3.1.2 Recreation and Access

Duck and Mill Ponds and the surrounding land areas of the Beaver Brook Reservation provide a significant resource of passive and active recreation. Activities which take place include hiking, biking, cross-country skiing, nature walks, family outings and picnics, and peaceful enjoyment of the surroundings. The MDC's Beaver Brook Reservation underwent a major facelift of its grounds and facilities culminating in a ceremony marking the 100th anniversary of the reservation in 1992. Improvements to the reservation included upgrading of trails for greater accessibility, woodland management including selective cutting of certain non-native tree species and repairs to water spillways and channels. On certain summer weekdays and weekends, an MDC nature guide is on-site to manage the property and respond to inquiries about the indigenous nature.

The two ponds of the Beaver Brook Reservation are home to a large population of mallard ducks and Canada geese. Although discouraged for environmental and ecological reasons, many visitors to the reservation feed the waterfowl.

Clay Pit Pond provides a picturesque frontage to the Belmont High School. Clay Pit Pond is bordered on two-thirds by a park with a cinder walking path. The park and path are used for several recreational activities such as jogging, cross-country skiing, sledding, dog walking and recreational fishing. The remaining perimeter of the pond is bordered by Belmont High School and the town sports playing fields. The High School Biology department occasionally uses the pond for observations and ecology studies.

The pond and park are often the focus of the annual spring town wide clean-up for accumulated litter. Along the walking path is a memorial, the Ruth Ippen Tree Walk, named in honor of a well-known member of the town Shade Tree Commission. The walking path is lined with a wide variety of tree species which are labeled and mapped.

Due to the deterioration of the banks caused by trees, wind and water erosion and foot traffic, the Conservation Commission embarked on a program of restoring and stabilizing the banks.

Little Pond is bordered by private residential property making access to the pond for recreational use difficult. There are two little known small parcels of land off Brighton Street which are owned by the MDC that can be used to provide access to the Pond. In addition, the MDC Alewife Reservation which borders Little River could be used for access to Little Pond.

Little Pond as well as Little River are frequently used for canoeing. Some of the private residents adjoining Little River use the river for fishing, jet-skiing, wind-surfing and other active water recreational activities. Due to the thick vegetation, canoeing on Little River toward Alewife Brook offers a rare opportunity of almost complete peace and solitude even though it is so close to major infrastructure and commercial development. The reservation land adjacent to Little Pond and Little River are visited by several naturalists for bird watching, fish surveys and other nature observations. As a result of the limited and difficult access, Little Pond is not used by the general public.

4.3.2 FLOOD HAZARD AREAS

Flood hazard areas were studied and mapped by the Federal Emergency Management Agency (FEMA) through the Flood Insurance Study of Belmont⁷. The flood hazard areas of Belmont, as delineated by the boundary of the 100-year flood, are limited to low lying land areas abutting Little Pond, Clay Pit Pond and Wellington Brook from Common Street to the culvert entrance behind the library. The FEMA defined limits of the 100-year storm are shown on the Water Resources Map (Figure 4-2). (Here is where to emphasize this problem!) During storms, especially "Northeasters" when the tide is high, Claypit Pond and Little Pond can not drain adequately and the water table rises in the area.

It was noted in the Flood Insurance Study that Hurricane Diane in 1955 was slightly over a 100-year frequency storm event. This hurricane was reported to have caused five feet of flooding in the Hittinger Street area from Clay Pit Pond to Brighton Street. Little Pond was reported during the 1955 hurricane to have risen to a level of just under 12 feet above mean sea level, again five feet above its normal base, causing flooding of many basements of nearby residents.

The capacity of the culvert from Brighton Street to Clay Pit Pond is constricting to flood flows and as such contributes to the flood hazard of the Hittinger Street area. The trash rack at the entrance to the culvert from the library to Clay Pit Pond can become clogged with debris and increase flood levels in Wellington Brook. There is also a bridge culvert behind the First Armenian Church which becomes partially blocked and contributes to frequent flooding of this section of Wellington Brook.

4.3.3 WETLANDS

Wetlands in Belmont are primarily associated with streams and surface water bodies (bordering vegetated wetlands) as can be seen on the Water Resources Map. The largest concentration of bordering vegetated wetlands is the vast marshland of the former Metropolitan State Hospital property along Concord Avenue from the Lexington boundary to the entrance to the town former transfer station / landfill site.

Wetlands boundaries of varying widths are found along Clematis Brook, Beaver Brook, McLean Brook, Atkins Brook and Winn Brook. Bordering vegetated wetlands adjoin residential development areas in several locations including Brookside Avenue and Lorimer Road in the Kendall Gardens section of town, homes abutting Little Pond, Somerset Street - Shady Brook Lane, Juniper Road and Fletcher Road areas and Stony Brook Road - Woodfall Road areas of Belmont Hill. Approximately 5 percent of the 7880 lots in Belmont contain or are bordered by wetlands and/or the 100-foot buffer zone.

Another significant wetlands resource area of town is that which borders Little Pond and Little River within the MDC Alewife Reservation and on the property of the private consulting firm Arthur D. Little (ADL). These wetlands serve a vital function of helping to attenuate flood flows which impact on the low-lying areas of the Little Pond and Winn Brook section of town. Officials and neighborhood groups of the communities of Arlington, Belmont and Cambridge hope to preserve and expand the wetlands resources of the Alewife Reservation. There has been ongoing discussions with Arthur D. Little to secure the preservation of a large tract of land, called the "Belmont Uplands" and owned by ADL. It is hoped that an agreement can be worked out with ADL to annex this parcel, which includes significant wetlands, to the Alewife Reservation or at a minimum get ADL to agree to a Conservation Easement for the parcel.

⁷ Flood Insurance Study, Town of Belmont, Dec. 15, 1981 - Federal Emergency Management Agency

4.3.4 AQUIFER RECHARGE AREAS

Since the entire town of Belmont is served by the ample MWRA water supply system of the Quabbin and Wachusett Reservoirs, there are no drinking water aquifer recharge areas in town.

4.4 VEGETATION

Much of Belmont's vegetation consists of intensely managed open spaces, such as lawns, school lands, playgrounds, and the Belmont County Club which have introduced mostly cool season, non-native grasses as the dominant cover. These areas are used for active recreation activities including soccer, football, basketball, baseball/softball, playgrounds and other pursuits.

Many of Belmont's residential areas are tree-lined with both native and non-native species and are a pleasure for walkers, joggers, and cyclists. A list of the species found in Belmont is contained in Appendix 11.5. Some larger lots in Belmont, such as on Belmont Hill most notably, have areas of woodland dominated by native trees. The shrubs and herbaceous plants are a mix of native and non-native species, tending towards plants adapted to disturbed, woodlot edge conditions. These larger properties provide aesthetic enjoyment for passers-by.

More extensive tracts of open space lands in Belmont, such as the Mass. Audubon lands on Juniper Road, McLean Hospital lands, Rock Meadow and the Met State property have fairly typical forest and meadow lands. Red Maple is the common tree in wetter sites, with red, white and black oak species common on drier, upland sites. Conifers, including hemlock and white pine, are commonly found in stands. Other species, such as American Chestnut and Elm, were dominant until recent decades when pest infestations have decimated mature specimens. All of the forest lands of Belmont have been cut historically and are not representative of pre-European settlement conditions.

These forest and meadow lands are used, not without conflict, both for active and passive recreation users for dog walking, running, off-road motor-cross riding, cross country skiing, walking, nature watching, and gardening, at Rock Meadow. These community garden lands are the last remaining tenuous link with Belmont's fairly recent pastoral, agrarian past. No rare, threatened, or endangered plant species are known to occur in Belmont at this time (NHESP, 1996).

4.5 FISHERIES AND WILDLIFE

4.5.1 INVENTORY

Belmont offers diverse habitat for wildlife, from suburban backyards to large areas of conservation land. Native wildlife forage successfully for water, food and shelter in the town's mixed hardwood and conifer forests, scenic meadows, ponds, and productive vernal pools. The existence of a regional greenway in the northwest section of Belmont is a significant factor in sustaining the town's wildlife populations. This greenway consists of over 500 acres of contiguous open space, 300 acres of which are in Belmont. The greenway includes the Metropolitan District Commission's Beaver Brook Reservation, Massachusetts Audubon Society's Habitat Education Center and Wildlife Sanctuary, Belmont's Rock Meadow (town-owned conservation land), McLean Hospital (privately owned), and the site of the former Metropolitan State Hospital.

While only 32 acres of the Met State site are in Belmont, legislation is pending to create a 240-acre MDC reservation on the property, linking the greenway to conservation lands in Waltham and Lexington.

In an otherwise densely developed region, the greenway provides critical habitat that hosts an impressive array of wildlife species. Great horned owls, red-tailed hawks, wood ducks, red fox, mink, cottontail rabbits, eastern chipmunks, bullfrogs, snapping turtles, and milk snakes are among the wildlife species seen in Belmont. Natural areas in metropolitan Boston are becoming increasingly fragmented by development, leading to a loss of bio-diversity. Belmont's regional greenway helps protect its wildlife populations from disease and genetic isolation and its preservation is essential to the ecological integrity of the area.

To the east, extensive wildlife habitat is found at Little Pond and the wetlands and marshes of the MDC's 115-acre Alewife Reservation, a natural local treasure shared with Cambridge and Arlington. The Alewife's wetland habitats help support great blue herons, a variety of waterfowl species, muskrats, painted turtles, and herring. The Arthur D. Little Company also owns wetland and upland property in Belmont adjacent to the Alewife Reservation. Access to ADL property should be coordinated through the company. To the south, Fresh Pond and Mt. Auburn Cemetery in Cambridge provide additional wildlife habitat in the area and recreational opportunities for Belmont residents.

While private property and conservation lands provide excellent wildlife habitat in the Belmont Hill area, other animal species have adapted well to Belmont's urban/suburban landscape. Residents spot striped skunks, raccoons, and gray squirrels throughout town, as well as common bird species, including blue jays, northern cardinals, black-capped chickadees and American robins.

The town's natural resources provide Belmont residents, both adults and children, with the opportunity to explore and learn about local natural history. Nature appreciation and study are increasingly popular activities with people of all ages. While living only fifteen minutes from Boston, Belmont residents can experience the thrill of viewing a red-tailed hawk in flight or hearing the melodious call of eastern screech owls courting at night. Reflective time spent in nature helps promote the physical and mental health of Belmont's residents. The quality of life in Belmont is thus enhanced by its open space resources and the wildlife living there.

The following summary describes invertebrate, fish, reptile, amphibian, bird and mammal populations in Belmont. While extensive bird reports exist for some sites in Belmont, other classes of animals have not been researched or documented in a systematic fashion. It is important that further ecological research on Belmont's large open spaces be undertaken to help provide Belmont residents with a better understanding of the existing wildlife populations and to identify factors necessary to protect those populations. Such research would also provide town residents and students with an opportunity to participate in the ecological management and stewardship of the town's natural resources. A comprehensive flora and fauna inventory of McLean Hospital, similar to that done at Met State, would provide valuable information as hospital officials, town officials, and Belmont residents consider the future of the undeveloped land surrounding the campus.

4.5.1.1 Invertebrates

Little is known about the history or current status of invertebrate populations in Belmont, suggesting a need for further research and study of those populations. A butterfly census could encourage volunteer interest. Invertebrate organisms in pond communities include fairy shrimps, fingernail clams, snails, crayfish and skuds; insects adapted to pond habitats include mosquitoes, backswimmers, water boatmen, whirligig beetles, and predaceous diving beetles. Habitat staff have done preliminary surveys of aquatic invertebrates, dragonflies, damselflies, and butterflies at Turtle Pond and Weeks Pond. Please see Appendix 11.6 for more information.

4.5.1.2 Fish

Belmont residents tend to go to Spy Pond in Arlington and other areas outside of town for recreational fishing opportunities. The Winn Brook Culvert on Little Pond and the Wellington Brook at Clay Pit Pond, both part of the Mystic River watershed, support spawning areas for alewife (Branch Herring) and Blueback Herring. The herring can be observed swimming upstream at the Ameila Earhart Dam in Somerville in late spring. The declining water quality throughout the Mystic River watershed has had an adverse impact on the health and vitality of area's herring populations. For further information, please see Appendix 11.7 and consult Stewart Sander's *An Alewife Area Ecology Guide*.

4.5.1.3 Reptiles and Amphibians

Reptile and amphibian populations in Belmont include milk snakes, garter snakes, snapping turtles, painted turtles, red-backed salamanders, wood frogs, bullfrogs, green frogs, spring peepers, and American toads. A spotted turtle, a species of special concern, was observed at Met State in 1994. Belmont's wetlands and vernal pools provide critical breeding habitat for amphibians. Vernal pools are temporary ponds that fill up with water from snowmelt and rain in the spring and some amphibian and invertebrate species (such as fairy shrimp) are dependent on these pools for survival. Most of Belmont's wetlands have been destroyed by development over time. Wetlands and vernal pools are now rare habitats in Belmont which need protection. Please see Appendix 11.6 for more information on Belmont's reptile and amphibian populations.

4.5.1.4 Birds

The diversity of bird species in Belmont has decreased over time from natural factors, such as the succession of fields and pasture lands to forests and the increase in cowbirds. Human factors influencing the diversity of bird species include clear cutting of tropical rain forests, forest fragmentation in New England, and the increase in cats and dogs in the area. These pets also impact a number of ground-nesting species in the area, including ruffed grouse, ring-necked pheasant, ovenbird, and American woodcock. However, the regional greenway described above helps maintain a diverse population of year-round and migrant birds in Belmont.

Common migrants to the area who stay during the spring and summer include the Eastern phoebe, red-eyed vireo, pine warbler, northern oriole, great crested flycatcher, tree swallow, rose-breasted grosbeak, scarlet tanager, wood thrush, and Eastern wood peewee and the American goldfinch. All of these birds are neo-tropical migrants. These sightings are significant in that neo-tropical birds are in decline due to habitat loss in the southern tropics and forest fragmentation in New England.

Birders have also recorded bobolinks and meadowlarks in Belmont in recent years. A female bobolink was seen during nesting season at McLean in 1995 and meadowlarks, once a common sight at Rock Meadow, have been noted there again over the past few years.

Permanent bird residents (most of whom breed in Belmont) include ring-necked pheasants, mourning doves, eastern screech owls, great horned owls, downy and hairy woodpeckers, blue jays, American crows, white-breasted nuthatches, cedar waxwings, house finches, and house sparrows. Over 150 species of birds have been recorded at Met State, McLean Hospital, Rock Meadow and Habitat. Although one of the most popular destinations for bird enthusiasts in the area, especially during fall and spring migration, is the nearby Mt. Auburn Cemetery, many of these same birds are using and nesting in the green spaces of Belmont. For a comprehensive list of birds at Habitat and Met State, including a breeding bird survey completed at Habitat in 1995, please see Appendix 11.9

Further, the open area that encompasses Rock Meadow, the Audubon preserve, McLean Hospital open land, and the immediately adjacent open land in Lexington and Waltham have always comprised an important stop on the Northeast Flyway for migrating birds.

4.5.1.5 Mammals

Belmont's mammal populations include white-tailed deer, coyotes, mink, muskrats, eastern gray squirrel, red squirrel, raccoon, striped skunk, woodchuck, eastern cottontail rabbit, eastern chipmunk, northern short-tailed shrew, meadow vole, field mouse, opossum, little brown bat and red fox. Gray fox and weasels have been seen in previous years at Met State. For more information on Belmont's mammal populations, please see Appendix 11.10.

4.5.2 CORRIDORS

This section will be provided in future releases of this document. An obvious area to investigate includes the Concord Avenue/Mill Street corridor.

4.5.3 RARE, THREATENED, AND ENDANGERED SPECIES

There are no known rare, threatened, or endangered wildlife species breeding in Belmont. During migration, the following federal and state listed species have been recorded: northern harrier (threatened) and peregrine falcon (endangered). As stated above, a spotted turtle, a species of special concern, was observed at Met State in 1994. Historical records do show other rare species. Habitat staff observed a box turtle, another species of special concern, at Habitat over 10 years ago. However, no up-to-date surveys have been done in Belmont.

4.6 SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

Figure 4-3 - Map of Belmont's Scenic Resources and Unique Environments

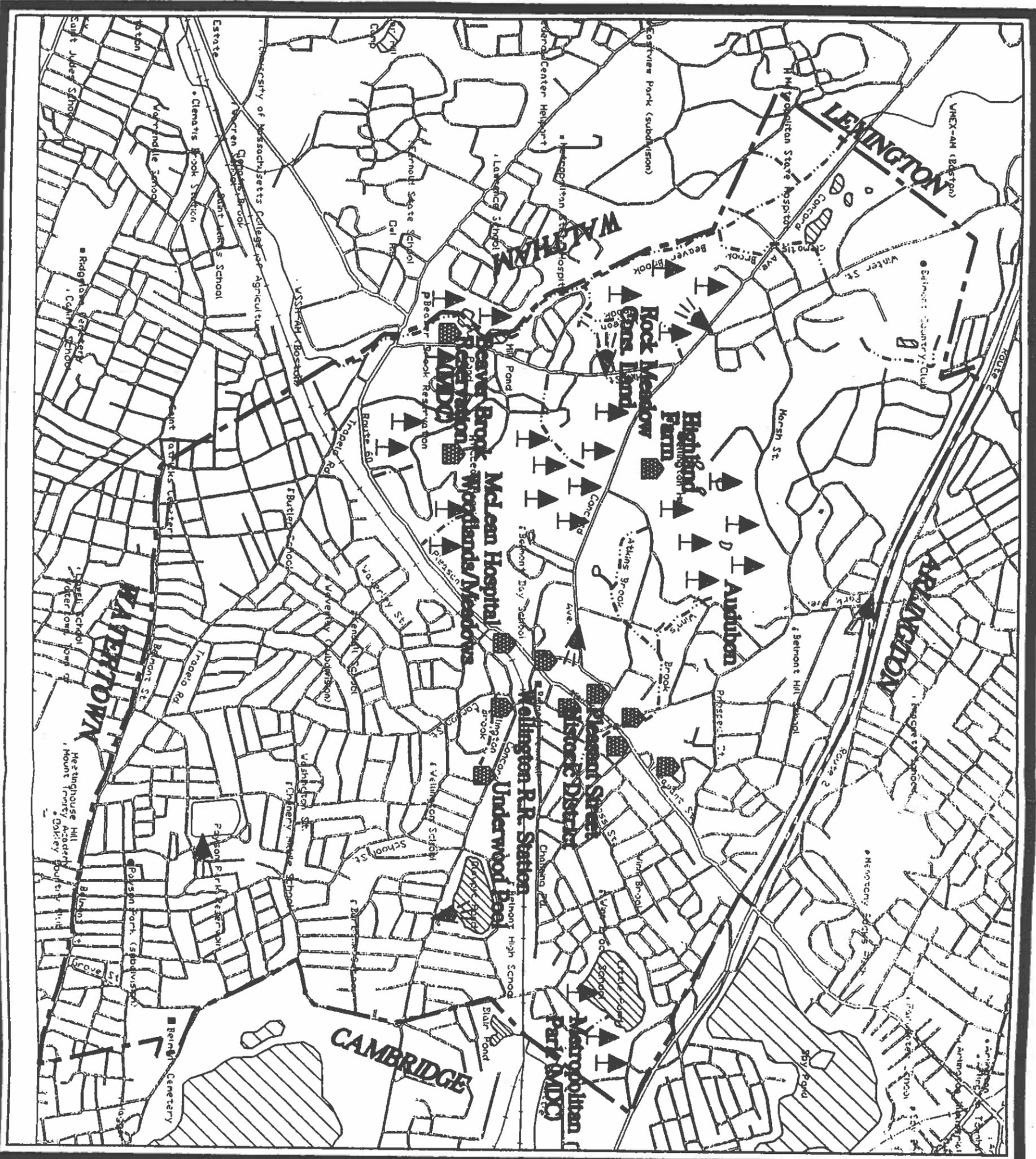
4.6.1 SCENIC LANDSCAPES

Belmont is unique among the immediate suburbs of Boston with the dramatic rise in elevation of the Belmont Hill area. This characteristic of the topography affords some breathtaking views of the Boston metropolitan area to the east and green space to the west including Rock Meadow and former Metropolitan State Hospital properties. A particularly good vista of the city of Boston skyline as well as Boston and Cambridge landscape can be seen by individuals from atop Belmont Hill at Concord Avenue and Wellington Lane. Drivers descending Belmont Hill heading east on Concord Avenue can view this vista during their commute. A similar publicly accessible view of Boston to the east and the rural setting to the west is at the crest of Route 2 on the Belmont-Arlington line.

Impressive views of Boston and Cambridge are also available from several hilltop and hillside locations in the Payson Park area of Town. Joggers and walkers using the city of Cambridge reservoir perimeter path are able to catch a clear viewing of the metropolitan areas. Many private residences in this area are also afforded this unique vista.

Individuals with access to a canoe or kayak have the unique opportunity of experiencing an immersion in nature in the midst of urban development and infrastructure with a ride down Little River from Little Pond to Alewife Brook. The MDC's Alewife Reservation bordering Little River has a diverse cross section of wildlife and plant species as described in Section 4.5. Those who have taken this river trip describe it as experiencing the peace and solitude of moving through country woodlands far removed any urban activity. Access to Little Pond and Little River is available to canoers from two different easements off Brighton Street and owned by the MDC as part of Metropolitan Park which surrounds Little Pond.

Large uninterrupted open meadow areas can be found at Belmont's Rock Meadow Conservation Land as well as on McLean Hospital property. These two locations with their trails and open meadows are enjoyed by many people from Belmont and surrounding communities for both passive and active uses. Passive activities include bird-watching, picnicking, nature exploring and walking. Active recreational uses include biking, cross-country skiing, jogging, kite flying, and field games (i.e. Frisbee). Community gardens at Rock Meadow are used by residents and non-residents alike to grow flowers, vegetables and fruits. At a number of locations



LEGEND

— TOWN BOUNDARY

--- STREAM/BROOK

▨ WATER BODY

▲ SCENIC LANDSCAPE VISTA

▲ NATURAL LAND AREAS WITH PUBLIC ACCESS

■ HISTORIC BUILDINGS AND LANDMARKS

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

**SCENIC RESOURCES AND
UNIQUE ENVIRONMENTS**

FIGURE 4-3

along the trails of McLean Hospital property are aerobic exercise stations for the general public's use.

4.6.2 UNUSUAL GEOLOGIC FEATURES

4.6.3 CULTURAL AND HISTORIC AREAS

Although Belmont is a relatively "young" town, being incorporated in 1859, it does offer a number of cultural and historic areas which contribute to the community's character.

Belmont's formation is attributed in large part to the presence of rail service through town. A present day reminder of Belmont's roots in the railroad is the **Wellington Hill Railroad Station**. The station, built in the 1840s originally as a one room private school, is located just outside of Belmont Center at the intersection of Common Street and Concord Avenue in front of the Unitarian Church. The Victorian style octagonal building has been moved several times over its 150 year history. The station, which is the property of the Belmont Historical Society, was fully restored after being placed in its present location in 1980. The colorful history of this railroad station along with a comprehensive review of the Town's history can be found in town historian Richard B. Betts' book "Footsteps Through Belmont"⁸, which provided much of the material for this section.

Another landmark in town is the **Underwood Pool** located on Concord Avenue on the former Underwood Estate property. This municipal pool, opened in 1912, is regarded as the first public outdoor swimming pool in the country. The pool and adjacent playground land areas were once the site of a food factory and steam boiler in the 1800s. The land on which the pool and playground sits was donated to the town by Henry O. Underwood (founder of Underwood Deviled Ham) for the express purpose of the enjoyment by local children.⁸ The pool was constructed by excavating a 13,000 square foot oval to a maximum depth of 8 feet. The nearby Wellington Brook and natural springs supplied fresh groundwater to the pool. In 1932 the pool was rebuilt with concrete bottom and sides looking close to its current appearance. The original bathhouse, built with the pool, still stands on the property and is still used for that purpose.

The **Pleasant Street Historic District** stretches approximately 3/4 of a mile from the Clark Street Bridge to just before Stella Road. Pleasant Street is the oldest street in Town and is lined with several historic structures including the impressive-looking town hall building. The present day town hall structure dates back to 1881 and makes use of elaborate ornamental appointments of its Queen Anne design. Richardson? Adjacent to the town hall building stands the original town library, now serving as the school department administration building. The original library building of Colonial design, was donated to the Town by Henry O. Underwood in 1902 in memory of his parents. Across from the Town Hall and original library is situated the stately Belmont Woman's Club. This property served as the summer home of William Flagg Homer, uncle of the famous painter, Winslow Homer.

One of the historic eighteenth century houses in the historic district is the **Captain Stephen Frost House** at 467 Pleasant Street. Captain Frost was one of the Lexington Minutemen battling British Redcoats on the national historic date of April 19, 1775.

⁸ "Footsteps Through Belmont" by Richard B. Betts, 1985

Just beyond the Pleasant Street Historic District on Concord Avenue at Wellington Lane can be seen the original granite common corner boundary marker of the three communities of Watertown, Waltham, and West Cambridge (now Arlington) which formed Belmont. The marker sits near the driveway of the present day Belmont Garden Club and letter designations inscribed for the three communities are still visible.

Sergi's Farm, located on Blanchard Road just past the end of Grove Street next to the 1807 Richardson house, is the last "working farm" in Belmont.⁸ These nine acres are what are left of the vast Hill/Richardson land granted about 1633 by King Charles I of England to Abraham Hill. The original grant ran along Alewife Brook and the Mystic River all the way to the harbor in Charlestown. Still owned by heirs of the Hill/Richardson family, this area is farmed by Angelo Sergi whose corn and vegetables are eagerly sought by local residents. This small market garden is a far cry from the early days when wagons left Belmont from all over town for the Faneuil Hall markets.

The **Highland Farm** (initially called Highland Stock Farm) property located off Somerset Street on Belmont Hill was used to raise Holstein cattle in the mid-1800's. The granite gateposts at the entrance to the farm as well as the foundations of the former barns can still be seen at the site. Winthrop W. Chenery, of the town-founding family, raised cattle for their milk production and is credited with introducing Holstein cattle to this country.

Highland Farm was also the site of a half-mile race track used by Winthrop W. Chenery for racing of his thoroughbred horses. The Highland Farm Race Track, as it was referred to, was located to the north of Concord Avenue and west of Somerset Street where the present-day Belmont Hill Club sits. In its later years, the farm was famous for raising and breeding trotters.

In 1965, 22-1/2 acres of the farm land behind the Belmont Hill Club was deeded to the Massachusetts Audubon Society which named the land area the Highland Farm Wildlife Sanctuary.

McLean Hospital with its present 240 acres is the single largest parcel of land in Belmont. The site was selected for development of an asylum in the 1890s due to its close proximity to the city and bucolic setting of lush hills and wooded land for its patients. The landscaping of the hospital campus was modeled after that of Frederick Law Olmsted, famous designer of Boston's public parks.

The site of the present **Beaver Brook Reservation** on Mill Street has historical beginnings dating back to the late 1600s. A fulling mill was erected by Thomas Agar using the water current of Beaver Brook for driving the mill. The original mill was replaced in 1819 by a gristmill from which two of its grinding stones are visible today adjacent to the spillways of Mill Pond and Duck Pond. Water power was also used at this site for operation of a sawmill and satinet factory. Ice cutting for local refrigeration purposes was practiced at the ponds in the 1890s.

Beaver Brook Reservation was originally named "Waverley Oaks Reservation" on account of the several large 200-year old oak trees on its property at its founding in 1892. The taking of the land for the reservation by the Commonwealth resulted in the birth of the Metropolitan District Commission and its parks system throughout Greater Boston.

4.6.4 ACEC's (AREAS OF CRITICAL ENVIRONMENTAL CONCERN)

Several properties in Belmont may qualify for areas of critical environmental concern. A thorough review of these properties has not been initiated at this time. Some candidates might include the Claypit Pond area, the Arthur D. Little property along Route 2 and the McLean Hospital property. Reasons for inclusion might be inland wetlands, water supply areas, or historical resources.

4.7 ENVIRONMENTAL PROBLEMS

The environmental problems in Belmont are typical of a suburban environment. These include accidental spills and leaks, historic solid waste disposal, and non-point source pollution. These issues are described below.

4.7.1 HAZARDOUS WASTE SITES

There have been 24 documented releases of petroleum or hazardous materials as of February 16, 1996 (Error! Not a valid bookmark self-reference.).

Table 4-1 - Belmont's 21E Hazardous Waste Sites

DEP Spill No.	Description	Address	Waste Type	Status	Remediation
N-86-0028	Mobil Station (FMR) #01-193	337 Pleasant Street	Petroleum	Phase 2	Capping or fencing of contamination source, monitoring of ground-water wells
	Police Station	460 Concord Avenue	Petroleum	Phase 2	
	Gulf Station	50 Brighton Street	Petroleum	Phase 1	
	Rutledge Rd. Site	6 Rutledge Road	Petroleum	Phase 1	
N-86-0777	BP Station (FMR)	70 Concord Avenue	Petroleum	Phase 2	
N-87-0340	Clinical Development Inst.	396 Concord Avenue	Petroleum	Prelim. Assessment	Removal of contamination source
	Exxon Service Station (FMR)	7 Channing Road	Petroleum	Phase 1	
N-87-1586	Belmont Volkswagen Belmont	270 Trapelo Road	Petroleum	Prelim. Assessment	
	Cambridge Plating Co. Property	145 Brookside Avenue	Hazard	Phase 1	
N-89-0335		39 Hittinger Road	Hazard	Phase 1	
N-88-0701	Vend-Master	1010 Pleasant Street	Petroleum	Prelim. Assessment	
N-87-1334	Mobil Station	12 Brighton Street	Petroleum	Prelim. Assessment	
N-88-1165	Mobil Station	365 Concord Avenue	Petroleum	Phase 2	
N-89-0817	Getty Gasoline Station	82 Concord Avenue	Petroleum	Prelim. Assessment	
N-89-1153	Cloverleaf Property	563 Trapelo Road	Petroleum	Phase 1	
		12 Brighton Street	Not available	Prelim. Assessment	
N-87-1705	Property	Country Club Lane	Petroleum	Prelim. Assessment	
N-88-0781	Property	30 Creely Road	Petroleum	Prelim. Assessment	Groundwater and/or soil treatment
	Star Market	Trapelo Road	Petro., Haz.	Phase 2	
N-90-1763	Gasoline Station (FMR)	359-363 Pleasant St.	Not available	Prelim. Assessment	
N-87-1586	Gasoline Station (FMR)	263 Trapelo Road	Petroleum	Prelim. Assessment	
N-93-0905	Our Lady of Mercy Church	401 Belmont Street	Petroleum	Prelim. Assessment	Removal of contamination source
N-93-0963	Lenny's Service Center	768 Pleasant Street	Petroleum	Prelim. Assessment	Removal of contamination source
N-88-1767	Property	21-23 Watson Street	Petroleum	Phase 1	Groundwater and/or soil treatment

Source: MADEP. 1996. Massachusetts Department of Environmental Protection Computer Bulletin Board System, updated February 16, 1996.

4.7.2 SOLID WASTE FACILITIES

Historically, the town of Belmont used the Clay Pit area where the present High School is situated as a town dump from the 1930's until 1959. In 1959, a parcel of land on Concord Avenue was converted into a municipal solid waste incineration and disposal site. Incineration of solid waste began in 1959 and continued until 1967. The landfill on-site was unlined and used for disposal of incinerator ash and of municipal, commercial, and household waste. Although the landfill was officially closed in 1975 when the town of Belmont contracted with Browning-Ferris

Inc. for municipal trash removal and disposal, it continued to receive leaves, brush, stumps, road sweepings, construction debris, and occasional household and commercial rubbish⁹.

In 1981, Perini Corporation provided clay excavated during roadway construction near the Alewife MBTA Station to the town at no expense for the purpose of capping the landfill. Area "C" (Figure 4-4) had never been used for disposal and therefore, did not require capping. Area "A" of the landfill, located toward the back of the incinerator, abutting the Metropolitan State Hospital property, was completely capped and graded with a layer of clay ranging in depth from 6 to 25 feet. Area "B", located near the recycle bins, was between 50 and 60 percent capped before neighborhood complaints of traffic and dirt caused the project to cease in September 1981. The site is currently used as a recycling station for asphalt and concrete, a transfer station for municipal departments (such as highway, recreation, light, etc.), leaf and grass composting site, wood chipping area for stumps and logs, snow deposit.

Several soil samples were collected in 1981 and submitted to the University of Massachusetts for chemical analyses and interpretation related to the soil's suitability for farming of trees and shrubs. Samples were analyzed for pH, nutrients, micronutrients (boron, molybdenum, zinc, copper, iron and manganese), substances toxic to plants (aluminum), and substance toxic to people (arsenic, cadmium and lead). At most locations, pH was somewhat elevated. Nutrients were considered "very high" in six of the ten samples. Substances toxic to humans were either undetected or present in concentrations considered "low".

There was also a landfill at the site of the current high school on Concord Avenue. This landfill was closed in 1958. Construction debris, such as glass, metal and wood, and an abandoned steam shovel are at the bottom of Clay Pit Pond, near the high school.

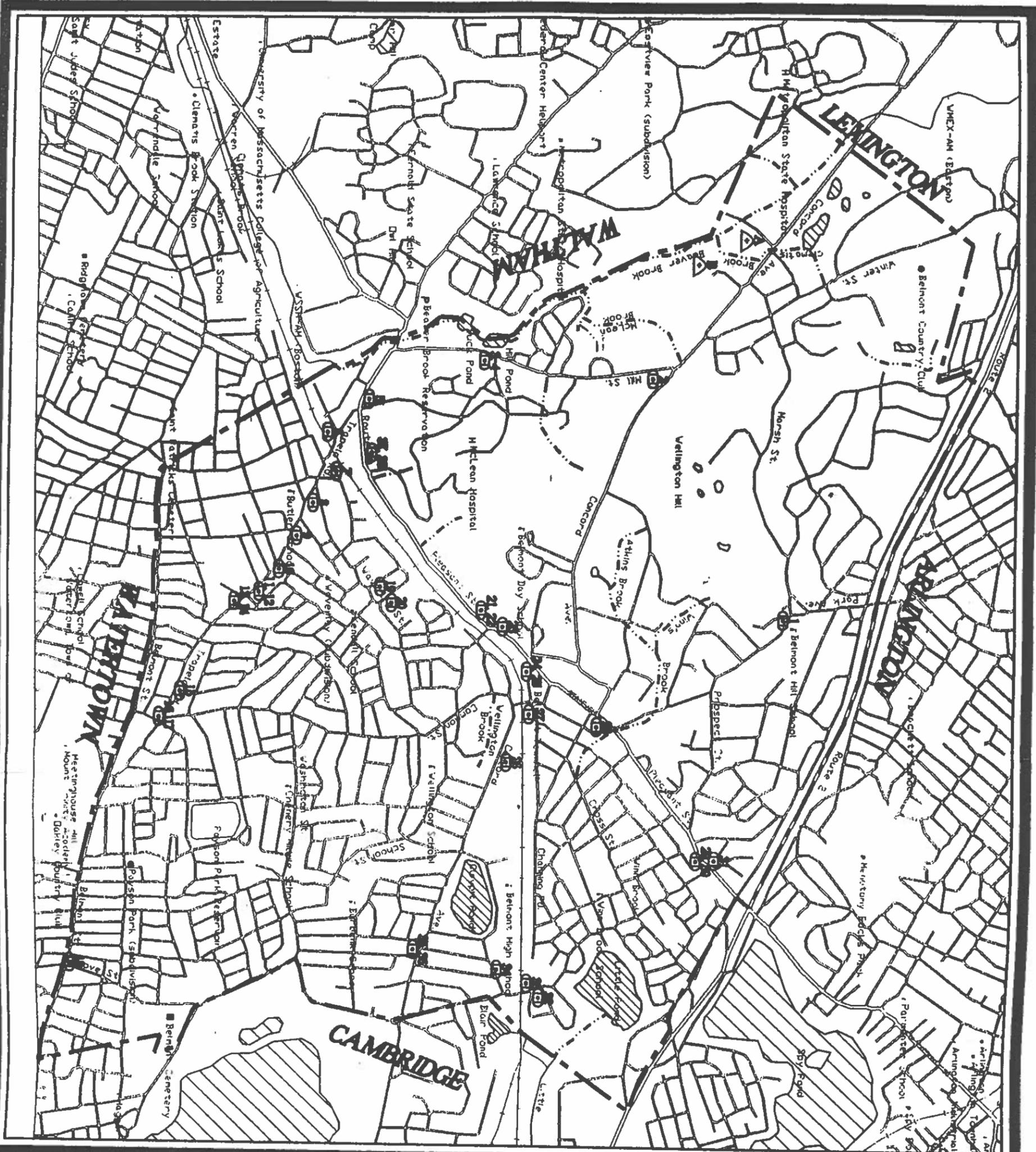
4.7.3 UNDERGROUND STORAGE TANKS

Locations of underground storage tanks registered with the Massachusetts Department of Environmental Protection are presented in There have been 24 documented releases of petroleum or hazardous materials as of February 16, 1996 (Error! Not a valid bookmark self-reference.).

Table 4-1 and Figure 4-4.

Figure 4-4 - Map of Belmont's Solid Waste Facilities and Underground Storage Tanks

⁹ Correspondence from Gerald McCall of DEQE to John Malone of Belmont Health Department dated Nov. 1, 1979



LEGEND

TOWN BOUNDARY

STREAM/BROOK

WATER BODY

SOLID WASTE FACILITY

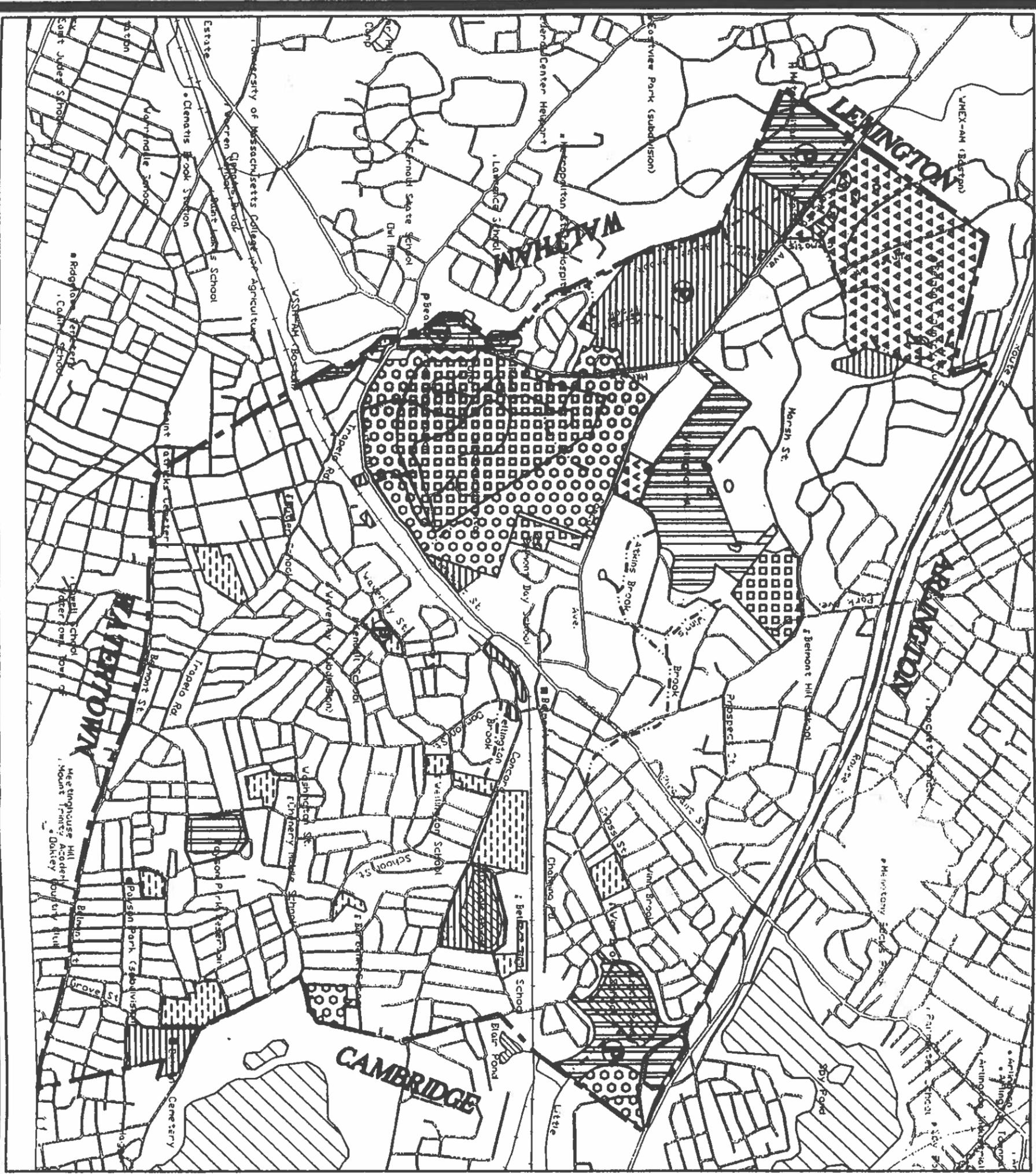
UNDERGROUND STORAGE TANK

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

**SOLID WASTE FACILITIES AND
UNDERGROUND STORAGE TANKS**

FIGURE 4-4

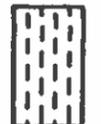


LEGEND

— TOWN BOUNDARY

--- STREAM/BROOK

 WATER BODY

 TOWN RECREATION LAND

 TOWN OPEN SPACE

 PUBLIC OPEN SPACE

 PRIVATE RECREATION LAND

 PRIVATE UNDEVELOPED LAND

 INSTITUTIONAL LAND AREAS

 PROTECTED PARCELS

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

**PUBLIC AND PRIVATE
OPEN SPACE LAND AREAS**

FIGURE 5-1

Table 4-2 - Belmont's Solid Waste Facilities and Underground Storage Tanks

Key	Site Description	Address
Solid Waste Facilities		
A	Town of Belmont Municipal Landfill	Concord Avenue
B	Town of Belmont Leaf Composting	Concord Avenue
Underground Storage Tanks		
1	Belmont Hill School	350 Prospect Street
2	Serg's Auto Service, Inc.	337 Mill Street
3	McLean Hospital	115 Mill Street
4	McLean Hospital	115 Mill Street
5	Property #1404	563 Trapelo Road
6	Mobil Oil Corp. 01-196	27 Lexington Street
7	White Street Garage	43 White Street
8	Waverley Fire Station	445 Trapelo Road
9	Gullotti Auto Repair	395 Trapelo Road
10	Belmont Gas and Service Station	350 Trapelo Road
11	Greer Realty Trust	295 Trapelo Road
12	Tarabelshi Brothers Service Inc.	280 Trapelo Road
13	Belmont Volkswagen	270 Trapelo Road
14	Belmont Volkswagen	270 Trapelo Road
15	Benny's Service Center	130 Trapelo Road
16	Belmont Citgo	500 Common Street
17	Cushing Square Exxon	90 Trapelo Road
18	Pesiridis Bros.	Belmont Street
19	Light Dept. Yard	40 Prince Street
20	Town of Belmont Water Dept.	35 Woodland Street
21	James Flett Equipment Co., Inc.	800 Pleasant Street
22	Heritage AMC Jeep Renault	790 Pleasant Street
23	Leonard Forziati	768 Pleasant Street
24	Belmont Police Dept.	460 Concord Avenue
25	Town of Belmont Light Dept.	450 Concord Avenue
26	01PM7	365 Concord Avenue
27	Exxon SS# 0966	7 Channing Road
28	New England Telephone Co.	115 Leonard Street
29	Pleasant Street Texaco	368 Pleasant Street
30	Getty Property #1339	350 Pleasant Street
31	01193	337 Pleasant Street
32	TNT Service Corp.	55 Brighton Street
33	Garber Auto Service	50 Brighton Street
34	Cambridge Plating Co., Inc.	39 Hittinger Street
35	Best - Belmont #6	80 Concord Avenue
36	P & M Service Center, Inc.	82 Concord Avenue
37	Belmont Springs Water Co.	1010 Pleasant Street
38	Peter Fuller Dodge Inc.	1000 Pleasant Street

Source: MassGIS, 1996. MassGIS Datalayer Descriptions and Guide to User Services. MassGIS, Executive Office of Environmental Affairs, Boston, MA, January 1996.

4.7.4 EROSION

Erosion occurs on the banks of Clay Pit Pond, particularly in heavily trafficked areas frequented by fishermen. In recent years, the Belmont Conservation Commission has undertaken a program to stabilize and restore the banks.

4.7.5 CHRONIC FLOODING

Flooding is controlled by annual cleaning of catch basins and is not considered a serious problem by the town engineer.

4.7.6 SEDIMENTATION

Sedimentation occurs at several ponds in town including Clay Pit, Mill and Duck Ponds. MDC had plans to dredge Mill and Duck Ponds however these plans were put on hold several years ago by the U.S. Army Corps of Engineers.

4.7.7 GROUND AND SURFACE WATER POLLUTION

Some contamination of the groundwater exists in Belmont. Underground fuel storage tanks at the police station leaked for approximately ?? months until they were replaced in 19???. The contaminated groundwater and soils were remediated and monitoring wells were installed on-site. Another area of concern was at the Texaco gas station on Pleasant Street near the intersection of Brighton Street where a large amount of gasoline was released in 198?. The gasoline seeped into the basements of several homes on Middlecot Street, causing evacuation of their residents. (needs clarification)

The Conservation Commission conducted a surface water quality survey of Clay Pit Pond on March 30, 1996. Elevated concentrations of chloride, nitrate and fluoride were detected in the samples. In addition, the levels of dissolved oxygen measured in the pond ranged from super-saturated (having plenty of dissolved oxygen) at the surface to nearly anoxic (having no dissolved oxygen – this is harmful to fish) at the bottom.

The concentrations of chloride are likely the result of application of salt for road de-icing along Concord Avenue. Based on nitrate concentrations, there may be sufficient nitrogen in the system to cause eutrophic conditions. (define eutrophic consequences) A possible source of nutrient loading is the use of fertilizers on adjacent town and private properties. The elevated levels of fluoride in the pond may be the results of the town's practice to flush its water distribution system into the stormdrains or could have resulted from a broken sewer pipe or an illegal sanitary discharge into a stormdrain discharging to the pond.

Surface water samples were collected from Beaver and Clematis Brooks on several occasions between 1979 and 1980. Samples were analyzed for pH, chemical oxygen demand and several inorganics. Results indicated the presence of somewhat elevated concentrations of sodium, chloride, and iron. It is likely that the sodium and chloride concentrations were caused by de-icing of roads using salt and the iron was naturally occurring.

A composite sample of eel, collected on July 26 and October 3, 1995 contained a concentration of 3.4 mg/Kg of chlordane, much higher than the U.S. Food and Drug Administration's Action Level of 0.3 mg/Kg for the interstate transport of fish¹⁰. Elevated concentrations of mercury and PCBs were also detected, however these concentrations did not exceed applicable standards or criteria. The source of chlordane is unclear. Chlordane is a pesticide and PCBs are often associated with electrical transformers. Atmospheric deposition is a common source of

¹⁰ Massachusetts Department of Environmental Protection. 1995. 1995 Public Request Fish Toxins Monitoring Surveys. Prepared by Robert Maietta.

mercury. In response to the high concentrations of chlordane detected, the Massachusetts Public Health issued an advisory against the consumption of fish caught from Clay Pit Pond.

5. CONSERVATION AND RECREATION INVENTORY:

5.1 INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST:

Table 5-1 and **Table 5-2** below present important land use factors pertinent to significant public and private open space land areas summarized in a matrix format.

Figure 5-1 is a map showing the location and extent of the town's public and private open space land areas. The open space areas are identified on the figure by various categories which include town-owned open space (recreation and conservation), public open space (parks and wildlife refuges), and private land parcels used for recreation or presently undeveloped. In addition, the large institutional land holdings (such as McLean Hospital and Belmont Hill School campuses) are differentiated on the map.

Those parcels which are classified as protected are indicated with a circled letter "P" over them on the map. Parcels are only considered protected if they meet one of the following criteria:

- a. Owned by the town's Conservation Commission
- b. Owned by the town's Water Department
- c. Owned by one of the state's conservation agencies
- d. A non-profit land trust
- e. Property that the town received state or federal funds for purchase or improvements
- f. Private land with an in perpetuity deed restriction
- g. Private land with an Agricultural Preservation Restriction
- h. Private land that the DEP has placed a conservation restriction on as part of the Wetlands Conservancy Program

The protected parcels in Belmont include the land recently acquired by the MDC on the former Met State Hospital property; Rock Meadow Conservation Land; MDC's Beaver Brook Reservation and Metropolitan Park, and the Town Field between Waverley and Beech Streets.

Figure 5-1 - Map of Belmont's Public and Private Open Space Land Areas

Table 5-1 - Significant Belmont Public Parcels

Public and Non-Profit Lands	Owner	Manager	Use	Funds Used	Condition	Recreation Potential	Public Access	Zoning	Degree of Protection
Beaverbrook Reservation	MDC	MDC	Playground, Picnic, Walking						
Belmont Cemetery	Town	Town	Walking		Excellent	Medium	Good		
Belmont Transfer Station	Town	Town			Good	Low	Good		
Durtank School	Town	Town	Basketball, Playground		Excellent	High	Excellent		
Butler School	Town	Town	Basketball, Playground						
Clay Pit Pond	Town	Town	Walking, Park, School, Sports Fields		Excellent	High	Excellent		
Gravel Pit, Pleasant St.	Town	Town	None		Poor	Low	Poor		
Grove Street Field	Town	Town	Baseball, Basketball, Soccer, Playground		Good	High	Excellent		
High School Field	Town	Town	Baseball, Football, Soccer		Good	High	Excellent		
Kendall Gardens	Town	Town	Playground			High	Good		
Little Pond	MDC	MDC	Boating, Walking		Good	Medium	Poor		
Metropolitan State Hospital Wetlands	Town	Town	Conservation		Good	Low	Poor		
Metropolitan State Hospital	MDC	MDC	Trails		Good	High	Good		
Payson Park Field	Town	Town	Playground, Park		Excellent	Medium	Good		
Pequosette Playground	Town	Town	Tennis, Baseball, Soccer, basketball, Playground		Good	High	Excellent		
Rock Meadow	Town	Conservation Commission	Trails, Gardens		Fair	High	Good		
Royal Road	Town	Town	None		Poor	Low	Poor		
Snake Hill Road	Town	Town	Trails		Good	Low	Poor		
Town Field	Town	Town	Baseball, Basketball, Playground		Good	High	Good		
Underwood Playground	Town	Town	Swimming, Playground, Skating		Good	High	Good		
Washington Street Playground	Town	Town	Baseball, Basketball, Tennis		Excellent	High	Excellent		
Wellington School	Town	Town	Playground			Medium	Excellent		
Wellington Station	Town	Town	Park		Excellent	Low	Good		
Winn Brook Field	Town	Town	Playground, Baseball, Tennis		Excellent	High	Excellent		
Woodfall Road	Town	Town	Trails		Good	Medium	Poor		

Table 5-2 - Significant Belmont Private Parcels

Private Lands	Owner	Manager	Use	Funds Used	Condition	Recreation Potential	Public Access	Zoning	Degree of Protection
Belmont Country Club	Belmont Country Club	Belmont Country Club	Private Golf Club	Private	Excellent	High	None		61B, Minimal
Belmont Day School	Belmont Day School	Belmont Day School	Education, Sports	Private	Excellent	Medium	Poor	Residential	None
Belmont Hill Club	Belmont Hill Club	Belmont Hill Club	Private Tennis Club	Private	Excellent	Medium	Poor		None
Belmont Hill School	Belmont Hill School	Belmont Hill School	Education, Sports	Private	Excellent	High	Poor	Residential	None
Belmont Uplands	Arthur D. Little, Inc.	Arthur D. Little, Inc.	Office Park	Private	Good	Low	Poor	Residential	None
Highland Farm/Habitat	Massachusetts Audubon Society	Massachusetts Audubon Society	Trails, Walking, Education	Private	Good	High	Good	Residential	None
McLean Farm	Partners Health	Partners Health	Walking, Park	Private	Poor	High	Good	Residential	None
McLean Hospital	Partners Health	McLean Hospital	Trails	Private	Excellent	High	Good	Residential	None
Sergi's Farm	Private	Sergi	Agriculture	Private	Good	Low	Poor	Residential	61A, Minimal

5.2 INVENTORY OF MUNICIPAL RECREATIONAL FACILITIES

The following is a list of pertinent data pertaining to town owned recreational facilities as provided by the Recreation Department:

1. High School Athletic Field and Complex -- Concord Avenue - 35.5 acres.
 - a. 10 tennis courts.
 - b. 2 baseball diamonds
 - c. 2 softball diamonds
 - d. 2 soccer fields
 - e. 2 football fields.
 - f. 1 running track-quarter mile.
 - g. 1 skating rink - ice hockey, ice skating, roller hockey.
 - h. 1 indoor swimming pool.
 - i. 1 field house.
 - j. 1 gymnasium.
2. Underwood Playground - 3.74 acres.
 - a. 1 outdoor swimming pool.
 - b. 1 children's play area.
 - c. 1 volleyball court.
 - d. 1 outdoor skating area.
3. Winn Brook Playground - 7.75 acres
 - a. 4 tennis courts.
 - b. 2 softball - little league diamonds
 - c. 2 soccer fields
 - d. 1 children's play area
 - e. outdoor basketball courts
 - f. 1 gymnasium

4. **Grove Street Playground -- 10.29 acres.**
 - a. 4 tennis courts
 - b. 3 little league diamonds
 - c. 1 soccer field
 - d. 1 children's play area
 - e. 1 basketball court
 - f. 1 roller/street hockey court
5. **Pequossette Playground - Maple Street - 7.61 acres**
 - a. 4 tennis courts
 - b. 1 softball/little league diamond
 - c. 1 soccer field
 - d. 1 children's play area
 - e. 1 basketball court
6. **Washington Street Playground - 8.36 acres**
 - a. 2 tennis courts
 - b. 1 softball/little league diamond
 - c. 1 baseball diamond
 - d. 1 soccer field
 - e. 1 basketball court
 - f. 1 children's play area
7. **Town Field - Beech Street - 6.07 acres**
 - a. 1 softball/little league diamond
 - b. 2 soccer fields
 - c. 1 children's play areas
 - d. 1 basketball court
 - e. 1 tennis backboard
8. **Payson Park Payson Road - 2 acres**
 - a. 1 children's play area
9. **Kendall Gardens - Brookside Ave. - .75 acres**
 - a. 1 children's play area
10. **Butler School - White Street - 2.9 acres**
 - a. 1 Children's play area
 - b. 2 basketball courts
 - c. 1 gymnasium
11. **Burbank School - School Street - 4.6 acres**
 - a. Children's play area
 - b. basketball court
 - c. 1 gymnasium
12. **Wellington School- School Street - 4.4 acres**
 - a. children's play area
 - b. gymnasium

5.3 PRIVATE PARCELS

A large number of the significant open space parcels within the town are privately owned. Only two of these properties are under any kind of agreement that restricts their potential development for use that would alter their value as open space (see section 5.3.1 below). Even these restrictions (Chapter 61A and 61B) offer little long-term assurance. The effect upon the Town of development of even a few of these private parcels could be dramatic.

The most significant of these, in terms of visibility and general public accessibility are:

- › The McLean Hospital Land
- Massachusetts Audubon and Habitat Land
- › Concord Avenue Corridor (between Pleasant Street and Mill Street)
- › Sergi's Farm
- Belmont Country Club
- › Belmont Uplands (owned by Arthur D. Little, Inc.)

The **McLean Hospital** property contributes in an important way to the perception of Belmont as a "green" community. This land sits at the crest of Belmont Hill and is visible from as far away as downtown Boston. McLean Hospital has also allowed use of its land for passive recreation for many years, although it is under no legal obligation to do this. And many residents of Belmont and the Boston area have come to think of this parcel as a significant open space resource. It should also be mentioned that the layout of these grounds was originally planned by the famous open space architect, Fredrick Law Olmsted, and it therefore has significant historic value.

This land is an important component of the green corridor which stretches to the west of Belmont into Waltham, Lexington and beyond, and it is a link between MDC and Town properties in the western part of the town. It provides significant wildlife habitat and is part of the flyway for native and migratory birds (see Section 4). ***The McLean Hospital land is currently under no degree of protection as open space.***

McLean Hospital is currently in a process of actively considering the sale of much of this land for development. Since there are currently very few restrictions on how this land can legally be used (the property is zoned for residential use), and the Town is aware of the potential for dramatic change of use and open space value for this critical property, the town's McLean Task Force is working with McLean Hospital to protect as much of this amenity as possible.

5.3.1 MASS GENERAL LAW 61A AND 61B CONSERVATION RESTRICTIONS

There are two parcels in Belmont that are privately held and whose owners sought and currently receive favorable tax status under MGL Chapter 61:

- MGL 61A Agricultural land; "Sergi's Farm"; located at the corner of Blanchard and Taylor Roads; Map 21, Parcel 141; State Class 712; 9.8 acres;
- MGL 61B Recreation land; "Belmont Country Club"; 181 Winter Street; Map 67; Parcel 11; State Class 805; 60.5 acres.

5.3.2 AGRICULTURAL PRESERVATION RESTRICTIONS

5.3.3 ESTATES, MAJOR INSTITUTIONAL HOLDINGS, CORPORATE, LANDFILLS, QUARRIES, ETC.

5.4 PUBLIC AND NONPROFIT PARCELS

Some of the most frequently used open space parcels in Town are owned by two non-profit organizations: McLean Hospital and The Massachusetts Audubon Society. These organizations have very different goals for the property that they manage. The goal of the Massachusetts Audubon Society is to preserve its holdings as open space and to make them available to the public for use for passive recreation and education. However, it is important to remember that the owner of this property is currently under no legal restriction regarding development of this property in a manner that would eliminate its use as open space.

The status of the McLean Hospital property is currently uncertain. The hospital's goals for the use of this land do not include conservation, passive recreation or public access, and recent developments at the hospital have introduced the significant possibility that a large part of the land owned by the hospital will be developed in some manner that will result in the loss of open space for the Town.

5.4.1 GOVERNMENT AND MUNICIPAL AREAS/FACILITIES FOR CONSERVATION AND RECREATION

The Town owns a large expanse of open space in the western part of the town. These properties include the Rock Meadow Conservation Land, the old incinerator and transfer station site, and an area of wetlands formerly belonging to the Metropolitan State Hospital. These properties currently offer very different degrees of maintenance, public access and recreation potential. The long term use of the transfer site was anticipated to become part of the conservation land when the town no longer has a use for it.

The Metropolitan District Commission (MDC), a State agency, owns the Beaverbrook Reservation in the southwestern corner of the Town. This land is significant for its recreational use and scenic value. It is also of value to residents of neighboring towns and the entire region, since it is easily accessible via a number of forms of public transportation, offers public parking and has picnic and barbecue areas, which are scarce in the Belmont area.

The MDC has also taken over management responsibility for the former Metropolitan State Hospital grounds, part of which fall within the Town boundaries.

5.4.2 SEMI-PUBLIC: LAND TRUSTS, PRIVATE NONPROFIT

The most significant private non-profit holding within the Town is the Massachusetts Audubon Society's Highland Farm and Habitat wildlife sanctuary. This sanctuary provides approximately 70 acres of open space that is used for walking and education. This land is widely used by residents of Belmont and surrounding communities. It is located on the crest of Belmont Hill

and, although landlocked, contributes in an important way to the overall "green" quality of the Town.

5.4.3 OTHERS: SCHOOLS, INSTITUTIONS, ETC.

There are two large holdings belonging to private schools: The Belmont Hill School and The Belmont Day School. These properties offer limited value to the community as restricted public open space recreational resources, and they contribute to the "green" quality of the town, as they are important components of the large area of open space on Belmont Hill. Neither of these parcels is under any degree of legal protection that would restrict their development.

6. COMMUNITY GOALS:

6.1 PROCESS

To establish open space and recreational goals for Belmont, the Open Space Planning Committee has and will continue to rely upon public meetings, discussion among the members of the Committee, solicited responses from other town committees, and analysis of open space data and survey findings. Towards that end, a preliminary questionnaire was developed (Appendix 11.4) in April, 1996. This questionnaire was distributed to Town Meeting Members at the April 1996 Town Meeting and to the general public at Town Day on May 18, and at the Shade Tree Community Garden Tour on May 19. Additional copies were solicited at the town library. Further methods of distribution to interested parties in town are being explored. An open meeting on our findings will be held after the questionnaire has been analyzed to solicit representative comments of citizens in the different neighborhoods.

6.2 STATEMENT OF OPEN SPACE AND CONSERVATION GOALS

Today as in 1979 (the date of the previous Open Space Plan), providing opportunities for recreation at locations accessible to residents and preservation of the ecological balance and exhaustible natural resources of the community are our primary goals. One of the major factors preventing realization of the ideal in Belmont is the fact that our land resources have been almost totally developed, leaving very limited opportunity to expand the town's inventory of recreation conservation lands. Other important considerations are the Town's fiscal capability to meet the total needs of the community, and the priorities assigned to recreation oriented activities versus other needs identified by the town. In light of these factors the most prudent course of action is to assess our needs, identify priorities, and develop a plan to maximize the physical and fiscal resources available.

6.2.1 DEFINITIONS

The term open space means many different things to different people. To some it is publicly held land. Others think of it as undeveloped land. In order to clarify our meaning in Belmont, we have included the following definitions in this Plan:

- Open Space:** Any undeveloped land, including but not limited to, conservation land, recreational land, agricultural land, parks, green buffers and any open areas that have recreational or visual amenity and value.
- Protected Open Space:** Any open space which enjoys permanent land protection from development.
- Unprotected Open Space:** Any open space which is not permanently protected from development.

6.2.2 BELMONT'S OPEN SPACE CHALLENGES

The loss of open space is essentially irreversible. This aspect of the situation makes any development on our remaining open space one of the most important challenges we face in the future. The loss of open space in Belmont would:

1. significantly decrease areas of scenic beauty now used for public enjoyment and recreation,
2. create a potential for increased ground or surface water pollution,
3. diminish plant diversity and wild life habitat areas, and
4. decrease the amount of areas for passive recreation such as walking.

Because Belmont is at the edge of the Boston region's urban sprawl, the pressure of population increase, density and development is very severe. Street scapes, visual amenity and open space preservation are critical to halt the effects of the encroaching urban sprawl.

We need to seek creative mechanisms that will preserve our open space and provide for future needs. Belmont needs targeted strategies to protect its remaining parcels of open land. Whether and how these parcels are likely to be developed or not, the impact will be significant. Possible mechanisms include zoning changes, planned unit development, conservation easements, working cooperatively with the owners of large tracts such as McLean Hospital to find uses that will add to the tax base and fit in with the character of the town while preserving open space, expanding the amount of cemetery land, and applying for public and private grants. Some towns apply a transfer tax on real estate sales to finance open space preservation.

Our open space is used in a variety of ways that benefit the region, the community and the individual. Our open space system is presently composed of both public and private areas.

Our Goals in brief:

- meet the town's recreational needs for all groups
- preserve our existing wildlife diversity and habitats
- create greenway connections to link various parcels of open space
- preserve the town's historic scenic areas and vistas
- provide open space for active and passive recreation
- protect open space for the many values it provides - protect open space to preserve the current green character of the town with it's regional value because of its proximity to the urban core
- protect, restore and enhance the town's natural resources by promoting environmentally sound decision making by all town agencies, community groups and property owners

7. ANALYSIS OF NEEDS:

7.1 RESOURCE PROTECTION NEEDS

7.1.1 LARGE TRACTS OF UNPROTECTED OPEN SPACE

Although Belmont, a close suburb of Metropolitan Boston, is fortunate to have large tracts of open space to enjoy, much of this land is classified as "Unprotected". (Refer to Figure 5-1 and Table 5-2). Therefore, a major resource protection need is converting present "Unprotected Open Space" to "Protected" Status. Protecting the large tracts of open space from development will assure Belmont keeps its unique character for future generations to enjoy.

The large parcels which primarily need protection and pose the highest risk for future development include McLean Hospital's tract of undeveloped land, and the so-called "Belmont Uplands" parcel on Arthur D. Little property. The undeveloped open space of both of these properties serve as crucial green space links to nearby and adjacent sensitive natural resource areas including wetlands, water resources and wildlife habitat. Belmont Uplands provides a water storage area when the water table is high.

Although at a lower risk of development than the above mentioned properties other large tracts of private land which should be targeted for protection include the Belmont Country Club, Audubon's Highland Farm and Habitat land areas, Sergi's Farm and Belmont Hill Club property.

In addition to the above identified private properties of open space, there are a number of individual property owners in Town with large estates which could be subdivided for residential development. Steps should be implemented to encourage these land owners to consider options such as conservation restrictions to limit future development.

7.1.2 WETLANDS, WATER RESOURCES AND WILDLIFE HABITAT

With the exception of the marsh area off Concord Ave. on the former Met State Hospital property and the Metropolitan Park land surrounding Little Pond, Belmont has very limited amounts of wetlands. The protection of the remaining bordering vegetated wetlands is important for a variety of reasons including enhancing water quality, attenuating flood flows, providing habitat for native plant and animal species, and recharging ground water supplies.

7.1.3 FLOODPLAINS OF LOW LYING FLOOD PRONE AREAS OF TOWN

Along with bordering vegetated wetlands, floodplains are a vital resource in the protection of property from severe flood damage as a result of storm runoff. Protection of the floodplains from encroachment by development is essential to mitigating the potential extent and degree of flood damage to structures and properties in low lying areas of Belmont. The foremost example of this are the floodplains of Little Pond and Little River. The Winn Brook drainage area of town, which is a tributary to the Little Pond/Little River floodplains, is most susceptible to the impacts of flood damage.

7.1.4 WATER QUALITY OF SURFACE WATERS

The surface waters of streams and ponds in Belmont are subject to the negative water quality affects of abutting residential development. These affects include point source and non-point source pollution influences. Point sources are pipeline discharges to surface waters and are attributed primarily to drainage system outfalls. Drainage system storm water discharges characteristic of suburban runoff from streets and paved parking areas carry contaminants such as road salt and sand, gasoline residues (volatile organic compounds), oil and grease, metals, and animal wastes.

Since Belmont has separate storm drain and sanitary sewer systems it does not experience the problems of combined sewer overflows (CSO's) which plague other surrounding communities.

Non-point source pollution is caused by overland storm runoff or leaching contaminated ground water. Overland storm runoff can carry with it: sediment from erosion of land areas; nutrients (nitrogen and phosphorous) from fertilizers; pesticides; litter and debris; and other contaminants. The high percentage of Belmont tied into the town sewer system means there is limited risk of contaminated ground water from failed septic systems.

The need for protection of the water quality of the surface waters of Belmont is highlighted by test results from a recent study of Clay Pit Pond (Clay Pit Pond Management Plan, Town of Belmont, June 1996, Prepared by the Belmont Conservation Commission). The water quality sampling indicated notable levels of saline conditions caused by roadway runoff contaminated with road salt. Other tests also revealed cloudiness as well excessive amounts of nutrients including nitrogen, whose source is unclear, except that there is a continuing problem with large flocks of Canada geese and other birds using the ponds and despoiling the grass on the adjacent sports fields. Additional, more complete tests are needed to determine what measures should be taken to protect the surface waters from deterioration and to improve their water quality.

7.1.5 BANK AREAS AND SLOPES ADJACENT TO SURFACE WATERS

Bank areas and slopes adjacent to surface waters require protection from erosion and encroachment. Erosion caused by the unattenuated flow of storm runoff overland leads to sedimentation impacts on surface waters and, over the long term, loss of land. Without preventive steps to stabilize the bank areas and adjacent moderate to steep slopes, erosion becomes more severe resulting in deteriorating water quality and slow undermining of the nearby land mass. The impacts of bank erosion, which have been witnessed first hand at Clay Pit Pond, are described in the preceding noted study. Mitigative measures undertaken by the Conservation Commission at Clay Pit Pond have helped to stem the loss of bank areas.

Encroachment of surface water bank areas and adjacent slopes by abutting landowners poses a serious problem since this exacerbates erosion impacts and potential for water quality degradation. Encroachment is often found to occur where property owners, either unaware or neglectful of Wetlands Protection Act, place fill materials, yard wastes or debris on the slopes or banks of streams and brooks. Over time these materials invariably end up in the surface waters.

7.2 SUMMARY OF COMMUNITY NEEDS

As part of the process of preparing for the Open Space Plan, surveys of citizen opinion regarding the use of open space and recreation facilities were conducted during the spring and early summer of 1996. The surveys, which polled Town Meeting Members at the annual Town Meeting in April, interested citizens at Town Day in June, and random users of the Belmont Public Library in June and July, were structured to ascertain interest in open space and recreation needs in Belmont. The surveys were random in that they were not structured on precinct lines, but instead were made available on a town-wide basis. It should be noted that as part of the planning process undertaken by the Selectmen's Task Force on the McLean Hospital land, additional citizen input will be asked for as well as information disseminated on a town-wide basis.

The following are some key results as indicated by the Open Space Usage Survey. The full survey results are presented in tabular and graphical format in section below:

- **Open Space:** Preservation and upgrading of existing open space such as the open fields and conservation areas was a top priority. As a corollary, this also included changes in the town by-laws to preserve and protect existing open space and to have more active participation in regional open space planning. The latter areas cited were the Metropolitan State Hospital land; Olmsted's "Emerald Necklace" around Boston; and the Blair Pond in Cambridge because of its effect on the Belmont water table. (75%)
- › **Neighborhood parks and small landscaped areas:** Preservation and upgrading of the landscaped deltas, neighborhood squares and tree-lined streets was a high priority by those residents who felt these areas needed improvement or were inadequate in size and number. (35%)
- › **Ski and Bike Trails:** These two areas had the highest response in terms of perceived inadequacy in availability to residents. (Over 70% said the existing bike trails were inadequate and over 40% mentioned that existing cross country ski trails were insufficient in number.) There is room to expand and improve the ski trails on Rock Meadow Conservation Land in conjunction with Waltham's large adjacent open space.
- › **Community Gardens:** A significant number of respondents felt that the area set aside for community gardens was inadequate and that more space for this purpose should be set aside. (39% felt it was inadequate versus 25% who were satisfied with the current status of the community gardens.)
- › **Appropriation of funds** for increasing the amount of open space was also a top priority as well as funds to maintain and upgrade existing open space. (92%)
- **Playgrounds and Recreational Facilities:** Improvement of existing playgrounds and recreational facilities was a high priority among the respondents. While many felt that the existing recreational facilities such as the tennis courts, basketball courts, team playing fields, and children's playgrounds were adequate (40%), there were almost as many who felt that the above facilities could be upgraded or improved and that additional recreation space is greatly needed. (30%)

In general, these preliminary survey results show an overwhelming support for the preservation as well as the upgrading of existing open space and recreational resources. Residents are particularly eager to see new recreational space that is less structured that would allow for hiking, walking, biking, and cross-country skiing. Residents also are in strong support of more recreational space for organized sports as well.

7.2.1 RECREATION NEEDS

The town of Belmont must meet a variety of community needs for facilities and services by its residents. There is a growing need for additional playing fields for outdoor sports and as the demand continues to grow, additional areas may need to be developed and expanded. In past years, the town has been able to work within a limited framework of physical areas and the changing preferences for recreation have been able to be accommodated by alteration of the various facilities.

According to the Recreation Department, its goal is to provide opportunities for residents of Belmont to participate in a wide variety of organized and recreational activities which appeal to the widest cross-section of the citizenry as possible. Town needs have been identified through a succession of surveys, town committees, town meeting members, and the open space committee. There is consensus that there is great need for playgrounds and sports fields. The current overwhelming need is for additional soccer and softball fields as well as for playgrounds that can serve all parts of town, some of which are not now well served.

For example, the demand for soccer is expanding at an exponential rate, and in terms of participation, is currently the number one sport among Belmont residents. Over 1200 children participated in soccer programs for ages 6-18 in spring 1996 -- 32% of school age children in Belmont participated in soccer! Also, Belmont is one of the few towns in eastern Massachusetts to field two competitive adult women's teams and there are a large number of men's recreational soccer teams as well.

The result is a very high demand for playing space and with the recent fire at the Chenery Middle School, over 350 children have been displaced for soccer game purposes.

The Recreation Department has an extensive list of improvements (see Sec. 7.2.5.1) which it would like made on the existing playground facilities which range from upgraded irrigation systems to replacement of tot-lot equipment. Also included in this list is lighting for the high school playing fields which would serve to greatly extend the usage of the fields for the different age groups and sports enthusiasts who compete for space for both informal and formal sports programs. The Recreation Department has made working closely with the Conservation Commission, Planning Board, and other Town boards and Commissions a top priority to coordinate the use and facilitate the planning of open space for recreation purposes.

The School Committee also has articulated a need for additional playground and recreational space because existing spaces are heavily used on a daily basis for the school athletic programs. As the school population grows, the use of playground and recreational space will continue to increase. Since 1990, school enrollment has increased by more than 20% and this is expected to grow at the same pace for at least the next decade, putting more and more pressure on the already inadequate playground space surrounding the public schools.

The Underwood Swimming Pool, the oldest public outdoor swimming pool in the state, date? has recently undergone extensive alterations. Despite these repairs to an inadequate and outmoded design, the survey indicated a general dissatisfaction with the pool and its environs, but given the existing space and budget constraints, there appears to be little that can be done at this time to improve the situation.

7.2.2 OPEN SPACE AND PARKS NEEDS

Part of Belmont's special character and appeal are its large tracts of existing open space, both privately and publicly owned, as well as the smaller parks and landscaped deltas and tree lined streets. Great value should be placed upon maintaining the green aspect of the town and traditionally, Belmont has expended a great deal of its resources in this effort. The 19th century Olmsted Plan for Greater Boston placed Belmont as one of its significant points in the "Emerald Necklace" design. With the exception of Rock Meadow, the large tracts of open space in the town are privately owned (i.e. McLean Hospital, Belmont Country Club, and Audubon's Habitat preserve.) Rock Meadow with its contiguous borders on jointly owned wetland with Lexington and Waltham is a heavily used open space which needs to be managed for use by people as well as by wildlife. Surveys and town committees have placed a high priority on developing both active and passive recreation facilities there. Walking trails which are both safe and well-maintained are at the top of the list, as well as cross-country ski trails. Proper management of the woodlands as an urban forest is also mentioned by not allowing the area to become a tangle of vines and brush.

It is also recognized that open space and greenery in a town increases property values by making the town a place in which people wish to live. In Belmont's case, its proximity to a heavily congested urban area makes its greenery even more desirable. There appears to be consensus that Belmont needs to retain its reputation as a "Town of Trees."

The Shade Tree Committee has focused primarily on protection of the smaller parks and green areas in the town that are intensively used and an integral component of the beauty of the town. These small green areas, as well as deltas and tree-lined streets, are important to the overall open space ambiance and appearance of Belmont.

As for larger areas, Clay Pit Park serves as Belmont's town common; therefore, the STC recommends that it be renovated and restored using planning criteria sensitive to the pond's ecology as well as to the residents' need for passive recreation.

The planting and maintenance of street trees is overseen by the Tree Warden (a certified arborist and member of the Shade Tree Committee); all town properties would benefit from this type of professional advice and planning. The STC also has drawn on the personal and professional expertise of its various members in evaluating planting plans and addressing issues as diverse as ease of maintenance and vermin and erosion control. The committee would like to continue to provide this essential service to the town in the future.

7.2.3 CEMETERY SPACE NEEDS

The existing Belmont Cemetery consists of approximately 21 acres, much of which lies within the Cambridge boundaries. Opened in 1860, the cemetery is now at capacity and no new burial plots have been purchased since 1988 although burials continue to be performed in plots already owned by individuals. The cemetery is also used as a recreational space for walking or jogging with the footpaths and auto roads providing excellent paths for this usage which has greatly increased in the past years.

The Board of Cemetery Commissioners has extensively studied the continuing and future cemetery needs of the Town and have made the following recommendations which have significant impact on open space usage and planning.

- › Ten usable acres are required to satisfy the cemetery requirements of the Town for the next 75 - 100 years. (Usable is defined as net acreage remaining for cemetery plots after roadways, paths, utilities, wetlands, and natural areas are considered.)
- The bulk of the property would remain in a natural state, with only the first two acres being cleared and landscaped. As need arises, additional acreage would be cleared for this purpose, but not until the first two acres are filled.
- › The site chosen for this cemetery is currently owned by McLean Hospital. A geological reconnaissance is currently being performed to determine the best parcel of land which might then be dedicated to cemetery use.
- › The new cemetery would be a multi-use site. In addition to its chartered purpose for the burial of Belmont's citizens, it would also be a place for passive recreation such as walking trails, bicycle paths, bird watching, and general enjoyment of the outdoors. The use of the European term "ecotary" best describes this kind of usage where the living can celebrate life and honor the dead.

7.2.4 SCORP (STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN)

The 1988-1992 Volumes I and II "For Our Common Good" A Comprehensive Analysis and Plan for Preserving Our Natural and Cultural Heritage and Providing Recreation Opportunities, has been reviewed and its goals integrated with this open space and recreation plan. Two of the three top ranked priorities (tennis, golf and boating- Northeastern Massachusetts) are in sufficient supply in Belmont or will be shortly.

Tennis: Belmont has 24 tennis courts. The analysis accompanying SCORP data for 1992 predicts that the demand for tennis will decrease (p. 89 volume I above).

Golf: The Metropolitan State Hospital Planning Committee has included a municipal golf course in the development plans for the Waltham parcel adding more capacity to the region. This will add to the one private golf course in Belmont, the municipal course at Fresh Pond in Cambridge and the private golf course in Watertown.

Boating: Citizen initiatives are underway to improve/clean up several local waterways (Little Pond) to enhance canoeing and other uses.

The update to the SCORP data is underway. It is expected that with the coming change in demographics (aging of the population), the next identified recreational demand will probably be consonant with Belmont's Bike/walking trail initiatives.

7.2.5 SOLICITED INPUT FROM SPECIAL GROUPS

Editor's Note - This section consists of requested submittals from various Town commissions and special interest groups relating to open space and recreation within the town. Each submittal is presented without further editorial comment.

7.2.5.1 Recreation Department Committee Report

Open Space and Recreation Resources

Open space and recreation lands have both physical and psychological value to the community and serve productive as well as aesthetic functions. Recreation opportunities add to the quality of life in a community. Open land serves as habitat for wildlife, birds, and small animals, contributing to the over-all character of the community.

The Town of Belmont must meet a variety of community needs for facilities and services by its residents. A growing need for additional playing fields for outdoor sports is a prime concern at this time. In past years, working within a limited framework of physical areas, the changing preferences for recreation have been accommodated by the alteration of facilities. As the demand continues to grow, additional areas may need to be developed and expanded.

Recreation Department Goals and Objectives

The Belmont Recreation Department provides an opportunity for each of the Town's residents to participate in an enjoyable activity during their leisure. The Department sponsored programs are selected, organized and staffed with the objective of providing appealing programs to satisfy the diverse interest of local citizens. The Department provides a comprehensive and balanced recreation program by:

1. Offering public recreation programs for all ages.
2. Maintaining public playground and recreation areas and facilities.
3. Sponsoring special event and special interest programs.
4. Assisting community groups in recreation oriented activities.

The following Recreation Department objectives have been identified:

1. To work closely with the Conservation Commission, Planning Board and all Town boards and Commissions for the purpose of accurate open space planning.
2. To work closely with all local boards for the preservation of greenspace and irreplaceable assets.
3. Provide for accessible recreation facilities in all areas of the town.
4. To locate recreation facilities and program sites so that safe access is available to all residents.
5. To provide a variety of recreational facilities and programs for residents of all ages.
6. To work closely with local groups in the planning, scheduling and execution of recreational activities.
7. To protect the town's existing areas that are needed for recreational use.
8. To expand and improve the provision of recreation services through monitoring of program participation to determine needs and trends, and to adjust to periodic recreation preferences.

Recreational Inventory with Long Term Needs for Improvements

An inventory of existing open space and recreation resources can be found in Sec. 0. The following is a detailed list of identified improvements needed at existing facilities, organized by recreation area:

Area 1. High School Athletic Fields

- a. Expansion of automatic irrigation system.
- b. Lighting of all athletic fields.
- c. Lighting of outdoor tennis courts.
- d. Replacement of current running track.
- e. Addition of outdoor basketball courts.
- f. Expansion of rink dressing room facilities.
- g. Improvements to baseball diamonds.
- h. Improvements to football fields.

Area 2. Underwood Playground

- a. Expansion of children's playground area.
- b. Replacement of Tot Lot equipment.
- c. Continue improvements at pool.

Area 3. Winn Brook Playground

- a. Addition of automatic irrigation system.
- b. Improvements to tennis courts.
- c. Improvements to ball diamonds.

Area 4. Grove Street Playground

- a. Expansion of automatic irrigation system.
- b. Improvements to tennis courts.
- c. Replacement of tot lot equipment.

Area 5. Pequossette Playground

- a. Expansion of automatic irrigation systems.
- b. Improvements to tennis courts.
- c. Replacement of tot lot equipment.

Area 6: Washington Street Playground

- a. Completion of new playground in conjunction with the Middle School Construction Project including new: tennis courts, basketball court, tot lot area, major league size ball diamond, little league size ball diamond, soccer field and automatic irrigation system.

Area 7: Town Field Playground

- a. Addition of automatic irrigation system.
- b. Replacement of tot lot equipment.
- c. Repairs to basketball court.

Area 8. Payson Park

- a. Replacement of children's playground equipment.
- b. Addition of a bandstand.

Area 9: Kendall Gardens

- a. Addition of children's playground equipment.

(Note - the recreational facilities located at the Butler, Burbank and Wellington schools are under school department jurisdiction.)

7.2.5.2 Cemetery Commission Report

Existing Cemetery

The existing Belmont Cemetery, located on Grove Street, consists of approximately 21 acres of property, much of which is actually within the confines of the City of Cambridge.

Opened in 1880, the cemetery is very much in the traditional form of upright stones in a fairly dense layout with a grid-like pattern of streets.

The current Belmont cemetery has been closed to purchase of new burial plots since 1988. Burials continue to be performed in plots already owned by individuals.

Many citizens of Belmont routinely utilize the narrow streets of the cemetery as walking trails, either at a leisurely pace or at an aerobic pace. The significant amount of shade, combined with low volume of auto traffic, has contributed to the rise in this use.

Future - The New Belmont Cemetery

The Board of Cemetery Commissioners has performed considerable study over the past eighteen years to determine the continuing and future cemetery needs of the Town. Over the past two years, we have carefully detailed our assumptions and conclusions and presented them to the Board of Selectmen. The following summarizes relevant points:

Ten usable acres are required to satisfy the cemetery requirements of the Town for the next 75 to 100 years. "Usable" is defined as acreage remaining after roadways, paths, utilities, wetlands and natural barriers.

After an initial rush of pre-purchase of plots in the first two acres, we forecast that the Town will require one acre per decade.

We have a phased concept for the development of the ten acres. Initially, we will install the infrastructure of main roadways, electric light, water and storm drains for the entire site. We will perform selective clearing of trees and significantly landscape only the first two acres. We will offer these two acres for pre-need purchase as well as needed. The remaining eight acres will remain virtually untouched in a natural state. When the first two acres approach capacity use, additional funds for development of the next acre would be required via Town Meeting. The benefit of this approach is really twofold: 1.) The bulk of the property can remain in a natural, preserved state until and as required and 2.) Should the more traditional methods of interment, which require larger amounts of land use, be abandoned for cremation on a large scale of acceptance, future residents of the Town could vote whether to convert the dedicated property to active cemetery use or leave it in a preserved state.

The site chosen for this cemetery is currently owned by McLean Hospital. Specifically, the preferred site is along Concord Avenue and a geologic reconnaissance is currently being performed to determine the best parcel. The parcel must then be dedicated for cemetery use.

The cemetery requires a limited amount of public road frontage but would benefit from a buffer zone of natural property.

The new cemetery would be a multi-use site. In addition to its chartered purpose for burial of Belmont's citizens, we have always envisioned a place used for passive recreation, including walking trails, perhaps bicycle paths, bird watching and landscape feature enjoyment. We have used the European term "ecotary" to describe this combined use. The natural beauty of the McLean property and its current wildlife make it an optimal location for this use. In sum, the new cemetery will be a place where the living can celebrate life and honor the dead, not just a "marble orchard" of densely packed tombstones. Of course, Mount Auburn Cemetery, in its multi-use is a partial example of this.

Summary

For all of the above reasons, the Board of Cemetery Commissioners continues to assert that the Belmont cemetery, both as it exists today and as it will exist in the future state, must be considered as open space for the collective enjoyment and use of Belmont's residents.

7.2.5.3 Belmont Historical District Commission Report

The Belmont Historic District Commission is interested in preserving the integrity of Belmont as an interesting and attractive town in which to live.

The Olmsted Plan for Greater Boston is the main focus for Belmont as a suburb. We are an "Emerald" in the Olmsted "Necklace".

The McLean land has to have imaginative and workable solutions to maintain its financial position as well as medical facilities: a retirement community with an Alzheimer's Unit as well as McLean per se is a natural solution. This would afford the open space.

If any "development" is done, it should be cluster housing with open space. To tear down any of the old buildings is false economy as these are substantial and extremely well built.

Waverley Oaks is established but needs to be protected, as well as the new Met State and MDC divisions. The Belmont Country Club, the Belmont Hill Club and Habitat are important pieces. Oakley Country Club is in Watertown. Fresh Pond is in Cambridge, but it is an integral part of the regional view.

The area around the High School, the Underwood Pool should be protected. Blair Pond is in Cambridge, but is vital land for Belmont overflow and has to be protected from further development in the Alewife Quadrant. The rising water table is continuing and flooding of the High School is a real possibility.

Rock Meadow is another piece. Neighborhood gardens keep it green. The adjacent McLean land is a natural for a future cemetery, and soil, not rock.

In looking at Open Space for Belmont, Prevention is Now. In many areas it is too late and everything should be done to protect what we have.

7.2.5.4 School Committee Report

Belmont parks and open space are vital to the town's ability to deliver a school program consistent with State regulations. Adjacent recreational fields are used heavily on a daily basis to support school athletic and academic programs. Natural open space areas are visited for class field trips to support curriculum. As the school population grows, the use of open space will increase further. School enrollments have increased rapidly over recent years and are expected to increase at a similar rate into the future. Since 1990, enrollment has increased by more than 20%.

Recognizing that the current heavy use of recreational fields is expected to increase steadily with enrollment growth, it is necessary to preserve and maintain existing field lands. Should sizable portions of existing open space be developed, resulting in significant increases in the school population, future school building would likely be necessary. Land area would need to be reserved for school building and athletic fields consistent with State requirements.

Existing open space areas including recreational fields and urban parks adjacent to Belmont Public Schools need to be properly maintained to ensure the health and safety of all users including students. Coordinated management of non school lands under one authority would facilitate and improve maintenance.

7.2.5.5 Shade Tree Committee Report

The purpose of the Belmont Shade Tree Committee is to offer consultation to the Tree Warden and other town officials on the selection and location of street trees and memorial trees in parks and school grounds. The committee also provides recommendations on design and plant specification for parks, deltas, existing municipal properties and proposed projects.

Belmont does not have a town common; instead, the land around Clay Pit Pond (also known as Clay Pit Park) for nearly seventy years has served the function of an open space large enough for public gatherings and passive recreation. The history of Clay Pit Park as researched by the town historian shows that the first plan for this park was done by the firm of Underwood and Caldwell in 1928. During the Depression, the WPA developed another plan. Grading and tree planting began during those years, and the Wellington Brook was diverted to fill the clay pit and create the pond in 1933. Implementation continued until 1963 when the final grading was completed. The construc-

tion of the High School and playing fields in the 1970's diminished the size of the park while adding a focus and increasing its use. The Ruth Ippen Tree Walk, honoring a Belmont resident active in town beautification and conservation programs, was dedicated at Clay Pit Park in 1987. Planting memorial trees on municipal grounds continues to be an important community tradition.

Although Claypit Park and other large open spaces are important, it is equally important to improve and maintain the smaller areas that are intensively used such as neighborhood parks and squares, school grounds and playgrounds. Even deltas, although located in the midst of traffic, provide a welcome spot to pedestrians when furnished with a bench and a tree. As Belmont's population ages, these smaller areas will become increasingly utilized as open space destinations. If Belmont is to retain its attractive appearance and offer opportunities for all its residents to enjoy open spaces no matter how large or small, it is essential for the town to preserve tree-lined streets and keep all its open spaces well-maintained and accessible.

SHADE TREE COMMITTEE GOALS AND OBJECTIVES:

1. To ensure that the Forestry Budget is sufficiently funded to allow yearly planting of at least 10% more trees than we lose to age, damage or disease.
2. Restore Clay Pit Park by removing and/or pruning overgrown plants. Maintain Park and install plant material that is sensitive to the ecology of the site as well as to the needs of Park users for security and beauty.
3. To ensure that any reconstruction of the playgrounds includes plans for passive recreation as well as quiet sitting areas for reading and conversation.
4. To continue to give professional landscape planning advice for large town projects, i.e., street construction, school grounds, and recreation areas.
5. To continue to work with the Highway Department and the Garden Club on memorial plantings and deltas.
6. To review the feasibility of returning to the practice of having the town grow its own street trees.
7. To support the town's designation as Tree City U.S.A. and to support the Tree Warden on educating school children with Arbor Day plantings.

7.2.5.6 Disability Access Needs

The Office of Community Development recently completed a comprehensive report on the Town of Belmont and its facilities with respect to disability access. The report, which is available to the public at Town Hall, defines priorities for creating and enhancing access within the Town. As defined in the report, the Town's first priority will be to make the Town Hall complex fully accessible to the public. The list of issues to be addressed as a second priority includes the provision of access in Belmont's playgrounds, recreational areas, and open spaces. Recently completed renovations at the Town's public swimming pool now allow access to the swimming area, but the bathrooms and dressing area are not accessible. It should be noted that all of Belmont's schools were found to be generally in compliance with the Americans with Disabilities Act.

The need to provide handicapped parking spaces and curb cuts in the Town were also acknowledged in the report. Members of the Disability Access Commission (who were interviewed by Belmont's Open Space Committee) suggested that curb cuts were a high priority and would be important in enhancing access to recreational areas, playgrounds, and open space. One Commission member, whose child is in a wheelchair and attends a public elementary school in Belmont, suggested it would be very difficult to make playgrounds accessible. She also noted that the handicapped population in Belmont is relatively small. She suggested, however, *that it may be possible for Belmont and other towns to work together to create a model of an accessible recreational area that could serve a number of towns in the region.*

In December 1995, the Town of Belmont completed a final draft of an ADA Transition Plan. Prior to the completion of the final draft, the Town undertook two major surveys regarding accessibility. In May 1994, Town Engineer Thomas Gatzunis completed a major survey of town facilities. In January 1995, another survey was completed of the Town Hall and the School Department. The Town has also retained Robert G. Neiley Architects to do accessibility surveys and propose remedies to various issues.

The Town of Belmont has defined the following ADA priorities for making town infrastructure accessible to people with disabilities:

- I. Town Facilities
 - 1) Town Hall Complex
 - 2) Public Schools
 - 3) Public Library
 - 4) Fire Stations
 - 5) Parks, Playgrounds, Recreation Facilities
 - 6) MBTA
- II. Major Commercial Areas
- III. Areas encompassing main streets, roadways
- IV. Repair, re-install nonconforming ramps

The goal is to meet the above goals by June 30, 2000.

One of the most important issues in Town that need to be addressed is the renovation of sidewalks to provide curb ramps. While a number of the major streets have curb ramps, it will be important to provide curb ramps so that Belmont residents can have improved access to open space and recreation areas. The Town has made a commitment to address improvements wherever major roadways and repairs are completed and as funding becomes available. Providing handicapped parking spaces near these areas will also be important.

In terms of recreation areas, recent renovations to the Underwood Pool, the town's public swimming area, included the installation of curb ramps and the provision of an accessible entrance to the water. The bath house facilities, changing areas, showers, and toilets are not currently accessible. The Belmont High School Field House has an accessible spectator area, but does not yet provide accessible restroom facilities. The municipal skating rink does not have toilet facilities and the handicapped parking area should be placed closer to the building. These issues would be addressed under the priorities identified above.

7.2.5.7 Elderly Needs

The OSPC is awaiting input from Belmont's Senior Citizen Committee.

7.3 MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

7.3.1 OPEN SPACE COMMITTEE SURVEY RESULTS

The OSPC received a total of 201 responses from its Survey Questionnaire (see Appendix 11.4). The answers to the survey questions were manually encoded according to the data entry instruction sheet included in the above Appendix, and entered into a Microsoft Excel spreadsheet. The spreadsheet was then exported into Microsoft Access where that program's Query functionality was used to create summation data which was then formatted into a series of charts, also presented in the above Appendix. Interested individuals can review the data entry spreadsheet to review the many helpful comments and suggestions offered by the survey respondents.

Note - results of new, town wide survey conducted Jan 1997 needs to be tabulated and inserted here to replace previous paragraph (MAR).

8. GOALS AND OBJECTIVES:

In the spring of 1996, the Open Space Planning Committee (OSPC) gathered to draft Belmont's open space goals and objectives. These goals and objectives were developed after many OSPC meetings and discussions, the results of a preliminary survey, the town's open space planning history (specifically the 1979 Open Space and Recreation Report), reports from and discussion with representatives of other town committees and the town's open space and recreation community goals (Section 6). After developing preliminary goals and objectives, the members of the Committee met again in August and September 1996 to begin the process of consolidating, and then developing draft actions, to go with the goals and objectives. The Committee notes that this section and the following one must still be reviewed by the relevant groups and individuals in the town and is subject to funding and appropriation. Belmont's goals and objectives are presented below in indented list format:

A- Preserve and protect Belmont's open space, historic scenic areas, and plant and animal habitats

- A-1 Preserve existing contiguous scenic corridors and wildlife greenways
- A-2 Protect the natural state of the undeveloped areas of McLean Hospital property
- A-3 Develop a process to facilitate the conversion of the remaining unprotected parcels listed in Table 5-2 to protected status
- A-4 Develop a system of responsibility and stewardship for open space and improve town wide open space planning to include and coordinate the activities of all relevant committees, commissions, and boards
- A-5 Develop public support for the protection and preservation of open space

B- Identify and protect open space parcels critical to the prevention of excessive flooding and pollution of Belmont's wetlands

- B-1 Identify, map, and protect critical floodplains wetlands
- B-2 Prevent pollution of ponds and streams
- B-3 Publicize the need to protect Belmont's wetlands
- B-4 Coordinate efforts with area watershed associations to develop regional water management solutions

C- Enhance Belmont's park areas and recreation opportunities for all Belmont's citizens

- C-1 Develop greater public support and participation to preserve, protect, and enhance Belmont's recreational resources
- C-2 Upgrade Belmont's playgrounds and playing fields
- C-3 Upgrade and enhance Belmont's parks and deltas
- C-4 Improve elderly and disability access to recreation and conservation areas
- C-5 Create new walking and biking paths and link them into a regional and town-wide network, and increase public use and access
- C-6 Look for opportunities to protect or acquire additional open space for recreation, cemetery and conservation use

D- Create systematic approaches for the management and funding of open space and recreation

- D-1 Develop better methods to coordinate the management of open space and recreation
- D-2 Develop new methods of funding the protection of open space
- D-3 Develop new methods of funding enhanced recreation opportunities

9. FIVE-YEAR ACTION PLAN

The following material presents Belmont's open space goals along with their specific objectives and proposed action items. The action items came from comments in the questionnaires and from discussions among OSPC members. It was difficult to map out a precisely delineated time line as most action items were ongoing and dependent on circumstances and appropriations. Further work is needed to fix priorities according to competing claims in terms of timing. Efforts aimed at clarifying our action plans will commence in September, 1996 when additional input from the public and from various town officials and agencies will be sought.

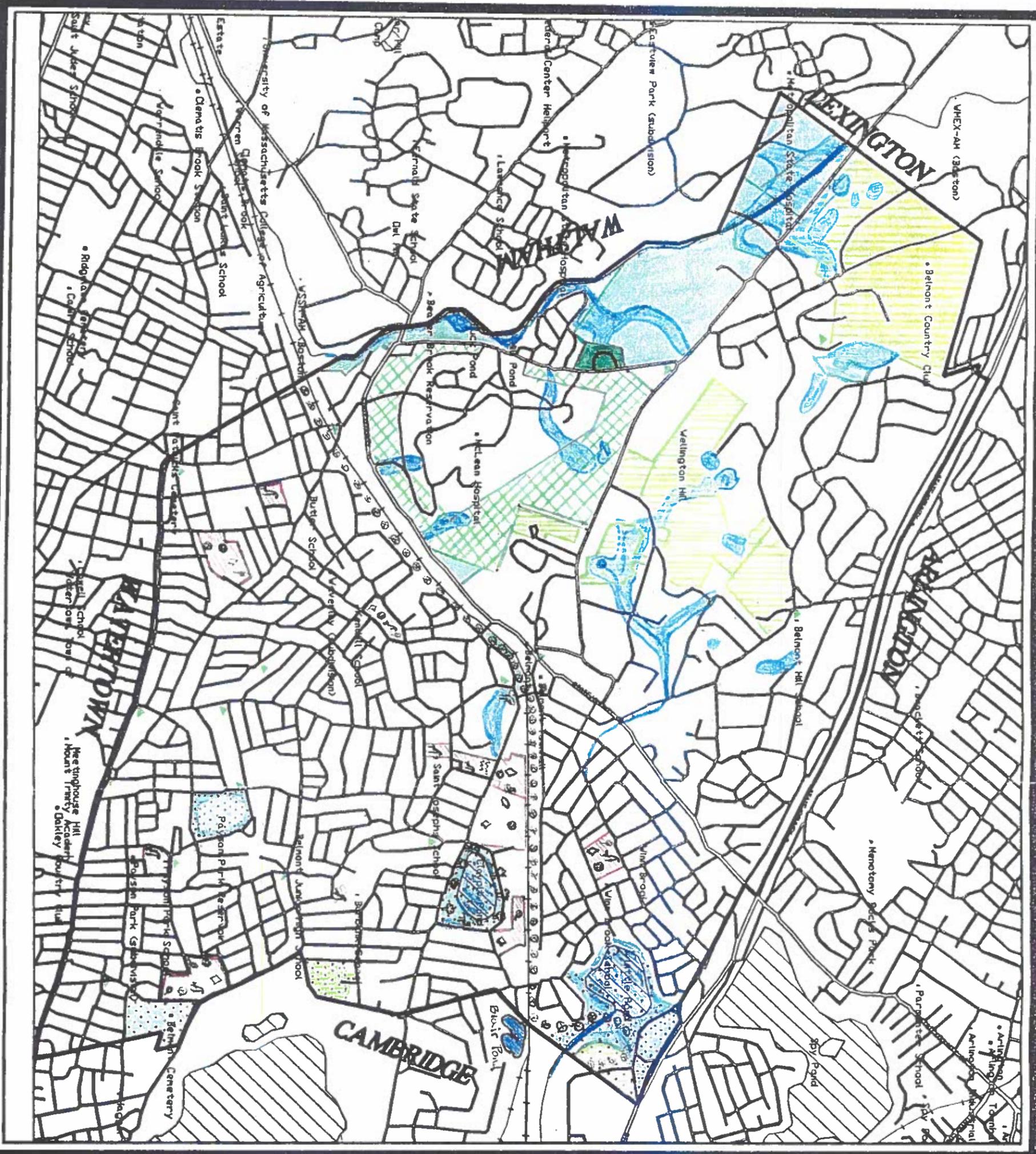
Figure 9-1 is a map of the projected change in land use resulting from the actions anticipated in the following five year plan.

Figure 9-1 - Map of Changes to Belmont's Public and Private Open Space Land Areas

9.1 GOALS AND OBJECTIVES REFORMULATED INTO A FIVE YEAR ACTION PLAN

A- Preserve and protect Belmont's open space, historic scenic areas, and plant and animal habitats

- A-1 Preserve existing contiguous scenic corridors and wildlife greenways
- A-2 Protect the natural state of the undeveloped areas of McLean Hospital property
 - A-2a Create a Task Force to hire a land use consultant and work with McLean's owners to develop alternatives to the sale of surplus undeveloped land for residential use 1996
 - A-2b Apply for a State grant under self-help open space initiative to acquire McLean Farm parcel on Mill Street adjacent to Rock Meadow for open space use 1996-1997
 - A-2c Investigate additional sources of funding the purchase of surplus McLean open space parcels or the purchase of conservation easements on such parcels (McLean Task Force or new Task Force) 1997-1998
- A-3 Develop a process to facilitate the conversion of the remaining unprotected parcels listed in Table 5-2 to protected status
 - A-3a Form a permanent Open Space Advisory Committee 1996
 - A-3b Identify and pursue sources of State, Federal and private funding for open space acquisition and protection (see also D-2) 1997-1999
 - A-3c Recommend revisions to zoning policies and regulations designed to facilitate the protection of open space 1997-1998



LEGEND

- PROTECTED CONTIGUOUS GREENWAY [9.1A]
 - NOW [9.1A-1]
 - UNDER TOWN OR MDC [9.1A-2]
 - UNDEVELOPED MCLEAN AREAS [9.1A-2]
 - MCLEAN FARM PARCEL/GRANT APP. [9.1A-2b]
 - UNPROTECTED PRIVATE PARCEL [9.1A-3]
 - MINIMALLY PROTECTED PRIVATE PARCEL [9.1A-3]
- PROTECTED OPEN SPACE [9.1A]
 - NOW [9.1A-1]
 - UNDER TOWN, MDC, OR CITY OF CAMBRIDGE [9.1A-1]
 - UNPROTECTED PRIVATE PARCEL [9.1A-3]
 - MINIMALLY PROTECTED PRIVATE PARCEL [9.1A-3]
- PROTECTED WETLANDS [9.1B]
- IMPROVED RECREATIONAL AREA [9.1C]
 - FOTLOT & TENNIS & SOCCER [9.1C]
 - FOOTBALL & BASKETBALL & SKATING [9.1C]
 - SWIMMING & SOFTBALL [9.1C]
- IMPROVED DELTAS & PARKS [9.1C]
 - DELTA [9.1C]
 - PARK [9.1C]

PLAN SCALE: 1 in. = 1600 ft.

**TOWN OF BELMONT
OPEN SPACE PLAN**

**FIGURE DESCRIPTION
FIGURE NO. 9-1**

- C-1 Develop greater public support and participation to preserve, protect, and enhance Belmont's recreational resources**
 - C-1a Encourage voluntary efforts to cleanup and maintain critical playgrounds and park areas such as Grove Street and Clay Pit Park** 1996
 - C-1b Publicize the need to enhance and enlarge recreational resources using various media including Town Day and School publications** on-going
- C-2 Upgrade Belmont's playgrounds and playing fields**
 - C-2a Repair playgrounds and improve safety** 1996-1997
 - C-2b Upgrade playing fields** on-going
 - C-2c Add lighting to play fields to allow expanded hours of use** 1998-99
 - C-2d Renovate H.S. track surface and include Soccer field in center oval** TBD
 - C-2e Expand automatic irrigation systems to compensate for extra use** 1997-1998
 - C-2f Rebuild Tennis Courts lost to Chenery reconstruction** 1999-2001
 - C-2g Construct outdoor lighted Basketball courts** 2000-2001
 - C-2h Locate and construct a new Soccer complex for tournament use** TBD
- C-3 Upgrade and enhance Belmont's parks and deltas**
 - C-3a Encourage voluntary efforts to cleanup and maintain critical playgrounds and park areas such as Grove Street and Clay Pit Park** on-going
 - C-3b Expand the scope of the Shade Tree Committee to include oversight responsibility for planting design and maintenance of town deltas and parks** 1997
 - C-3c Sponsor annual town-wide clean-up day for all open spaces** on-going
- C-4 Improve elderly and disability access to recreation and conservation areas**
 - C-4a Provide benches in areas now lacking them (Rock Meadow)** 1996
 - C-4b Upgrade Underwood Pool bathhouse facilities to include disability access** TBD
 - C-4c Provide disability parking and curb cuts where none available at recreational areas** TBD
- C-5 Create new walking and biking paths and link them into a regional and town-wide network, and increase public use and access**
 - C-5a Plan for the construction of connecting trails and paths where possible, working with abutting towns.** on-going
 - C-5b Make use of new state regulations to review the reconstruction of state funded highways and local regional access roads (Pleasant Street, Concord Ave. and Mill Street) with respect to bicycle access and safety issues** TBD
 - C-5c Publish and post local recreation maps including trails and bikeways** TBD
 - C-5d Eliminate Poison Ivy from paths and trails** on-going

- C-6 Look for opportunities to protect or acquire additional open space for recreation, cemetery and conservation use
 - C-6a Circulate copies of this plan to the owners of key privately held parcels and meet with them to discuss their potential interest in planning for the protection and preservation of their properties. Funding methods to achieve this objective are covered in D-2 below. 1997-1998
 - C-6b Explore opportunities for expanding cemetery space 1996-1999

D- Create systematic approaches for the management and funding of open space and recreation

- D-1 Develop better methods to coordinate the management of open space and recreation
 - D-1a Establish a temporary open space management review task force, charged with oversight management of recreational facilities and open space, to review town regulations and the work of the various commissions and town department and report back to the Selectmen on ways to better manage and coordinate these efforts 1997-1998
- D-2 Develop new methods of funding the protection of open space
 - D-2a Establish a temporary open space funding task force charged with reviewing various funding sources and methods, in order to find increased funding and funding methods to protect open space 1998-1999
- D-3 Develop new methods of funding enhanced recreation opportunities
 - D-3a Establish a temporary recreation funding task force charged with reviewing various funding sources and methods, in order to find increased funding and funding methods to enhance recreational opportunities 1998-1999

9.2 PRIORITIES

The Town of Belmont has established the following initiatives as highest priority:

9.2.1 WALKING/BIKE TRAILS

Since its inception in 1994, the Bikeway Planning Committee has made major progress in planning the routing and construction of new walking and biking paths that will connect to the nearby regional trails network. This committee has examined MDC and commuter rail resources and will be reporting on their progress later this year.

9.2.2 COORDINATE PLANS FOR THE RE-USE OF THE McLEAN HOSPITAL PROPERTY.

The Hospital and the Town have formed a joint committee and the Town has formed a land use review committee to communicate, coordinate and integrate the plans (as they develop) for the 240 acres of the McLean Hospital site.

9.2.3 RENOVATE PLAYGROUNDS AND TOT LOTS

The Belmont Health Department and other regulatory groups have identified several playgrounds in Belmont that are in need of significant renovation. The Recreation Department is developing an action plan as this document goes to press. The Board of Selectmen are in the process of earmarking funds to begin the renovations.

9.3 FUNDING SOURCES

9.4 RESPONSIBILITY IDENTIFIED

9.5 UPDATE

10. PUBLIC COMMENTS:

Beginning with our meeting in March 1996, The OSPC has kept the Conservation Commission and the Planning Boards informed of our deliberations. The preliminary draft of the Belmont Open Space Plan was submitted to the Planning Board on May 29 as discussed in Section 2.2. This preliminary version will be distributed to the Board of Selectmen, the Planning Board and the Conservation Commission during the week of September 16, 1996. The Open Space Planning Committee will receive oral comments on the plan from these groups at the September 30 meeting of the Board of Selectmen. Changes will be incorporated in future revisions of this plan. Extensive work will be conducted during the current FY97 year to receive input from various groups and individuals in the town. Specific comments from the various sources identified below will be available in the next update of this document.

10.1 REGIONAL PLANNING AGENCY

10.2 PLANNING BOARD

10.3 CHIEF MUNICIPAL OFFICIAL

10.4 OPTIONAL: BOARDS OF HEALTH, APPEALS, RECREATION AND CONSERVATION OFFICIALS

11. APPENDIXES

11.1 PHILLIP B. HERR & ASSOCIATES, REPORT TO PLANNING BOARD, JULY 8, 1991

In specific reference to the McLean property, the Herr report refers to "those living nearby [who] seek protection against traffic impacts and minimization of loss of the visual and environmental amenities they now enjoy from that property, especially its open space. The Town seeks to avoid excessive demands on Town services..." (p. 1) The report then goes on to cite some land use options for the McLean property. Again, these could conceivably be implemented on some of the other larger tracts of open space in the town. These options are:

1) Permanent Open Space: The challenge is to find an equitable and acceptable means of achieving it.

2) Institutional Use: By either McLean, MGH, (or now Partners); any or all could utilize the land for institutional purposes such as a clinic, outpatient (or in the case of the report) a large scale unit to house Alzheimer's patients.

3) Retirement Community: This use allows the hospital (or Partners) a return on the value of the land, provides a neighbor which is reasonably compatible with both the Hospital and other vicinity uses, and has relatively light impact on the town while providing substantial fiscal benefit.

4) Family Residential Development: Since the area is zoned for SD which consists of single-family dwellings on 25,000 square foot lots, this is one possible use. The Town's cluster zoning provisions would allow smaller lots in return for open space, and could allow for attached dwelling units. Done conventionally, single-family development would serve few objectives other than the Hospital's interest in return on land value. Done creatively, this use might actually preserve open space and serve a variety of Town and neighborhood interests. Typical SD development, with lots of a bit over 25,000 square feet and 3,000 square foot houses would produce an overall FAR (floor area ratio--the amount of floor area allowed in relation to lot area) of about 0.10, after accounting also for area "lost" to streets and unusable land. If a use covered the maximum 20% of lot area allowed and rose the maximum 2 1/2 stories allowed, this site after losing 20% to roads and wetlands could still support over 4 million square feet, or an FAR of 0.40. (Note: The Herr Report estimates that present buildings cover 2.6% of the McLean site). The SD district allows for 20% coverage, and Herr estimates that typical single family building in this district actually covers about 4.8% of parcel area with buildings. An FAR limit of 0.10 would sharply limit the amount of additional development allowable on the McLean site. An FAR limit of 0.20 would allow all that is currently being explored as possible development, plus more, but only half the amount of development theoretically possible under current zoning.

11.2 RICHARD BETTS, OPEN SPACE INVENTORY REPORT, APRIL 1, 1996

PRELIMINARY INVENTORY OF OPEN SPACE
 COMPILED FROM BELMONT ASSESSOR'S ATLAS
 by Richard Betts
 April 1, 1996

Atlas Page	Location	Area
3	Payson Park Park	88501 s.f.
5	Benton Square Delta	7500 s.f.
6	Chenery Middle School (8.36A) playground only	4 acres
6	Delta Common & Payson	2800 s.f.
6	Delta Oakley & Payson	3700 s.f.
7	Cambridge Reservoir	11 3/4 acres
7	Delta Payson & Hillside Terrace	2800 s.f.
8	Delta Elm & Payson	5000 s.f.
8	Delta Washington & School	500 s.f.
9	Grove Street Playground	10.3 acres
11	Belmont Cemetery (in Belmont)	12.7 acres
11	Belmont Cemetery (in Cambridge)	4.3 acres
12	Municipal parking lot Cushing Square	18720 s.f.
14	Pequossette Playground	7.6 acres
16	Delta Hammond & Creeley	1750 s.f.
20	Burbank School (4.6A) lawn & playground	2 acres
21	Ogilby property (Sergi Farm)	10.3 acres
23	Orchard Circle	13300 s.f.
24	Underwood land Common Street (Private)	10.5 acres
24	Town Park Common & Concord Avenue	29440 s.f.
24	World War I Memorial Common Street	4500 s.f.
24	Underwood Pool Playground	1.7 acres
24	Underwood Pool & Skating rink	2.0 acres
24	Wellington School (4.4A) playgrounds	3 acres

25	Belmont Tennis Club Kilburn Road	25583 s.f.
27	Butler School (3 A) playgrounds	2 acres
29	Former Water Dept. storage yard B Street	12306 s.f.
29	Kendall School for the Arts (total)	53760 s.f.
30	MBTA land adjacent Clark Street Bridge	38520 s.f.
30	Town Field	4.84 acres
31	Town land Royal Road	2.13 acres
31	Town land Concord Avenue adj. RR Underpass	20123 s.f.
31	Town Hall lawn	12000 s.f.
31	Delta Leonard Street opp. Savings Bank	8000 s.f.
31	MBTA land off Pleasant Street	1.04 acres
31	Delta Pleasant & Concord Avenue	500 s.f.
32	Former White Street off Pleasant Street	8000 s.f.
33	Beaver Brook Reservation (page 60 also)	5.17 acres
33	Delta Lexington & Trapelo	5750 s.f.
33	Town Parking Lot Church Street	15480 s.f.
34	Town Parking Lot Claflin Street	56264 s.f.
34	Town Parking Lot Aleander Avenue	21096 s.f.
35	High School Playfields Concord Avenue	22 acres
35	Clay Pit Park (Land) High School Site (38.1 A)	21 acres
35	Clay Pit Park (pond)	13.5 acres
35	MBTA (former Central Mass RR bed	2.5 acres
40	Metropolitan Park (land)	16.14 acres
40	Metropolitan Park Little Pond	18.0 acres
40	Arthur D. Little (Uplands)	10.2 acres
40	Arthur D. Little (Wetlands)	1.97 acres
40	Former MDC Skating Rink Route 2	4.38 acres

42	Winn Brook School (7.75 A) playground	5.7 acres
45	Former school lot Brighton Street	9870 s.f.
52	Delta Park Avenue & Marsh Street	7850 s.f.
53	Island Evergreen Way	4000 s.f.
54	Belmont Hill School (Total)	27.6 Acres
56	Mass Audubon (Habitat)	24 acres
57	Belmont Woman's Club lawn	35000 s.f.
58	Former Town gravel pit Pleasant Street	6 acres
58	Snake Hill Road common land (private)	2 acres
59	McLean Hospital (Total 237.36 acres) Open space about	100 acres
60	Beaver Brook Reservation Mill Street (Also page 33)	10.78 acres
62	Belmont Day School (Total)	4.8 acres
63	Mass Audubon land (Former Claflin land Somerset Street)	8 acres
64	Former McLean Hospital Farm Mill Street	4.6 acres
64	Rock Meadow	70.2 acres
64	Town land adjacent former incinerator	9.4 acres
65	Highland Farm Wildlife Sanctuary Somerset Street	44.3 acres
67	Conservation land Concord Avenue at Lexington line	22.67 acres
67	Met State Hospital land (in Belmont)	32.82 acres
67	Former incinerator site Concord Avenue	15.6 acres
67	Belmont Country Club	125.6 acres
69	Belmont Country Club (Greensbrook Way)	8.92 acres
69	Belmont Country Club (Winter & Country Club Lane)	23162 s.f.
69	Town land end Woodfall Road	5.37 acres
69	Delta at Greybirch Park	7800 s.f.
71	Woodbine Road island	1500 s.f.

NOTE: Areas scaled when not given on Town Atlas

QUESTIONS RAISED DURING INVENTORY

Richard Betts - 4/1/96

- Should town deltas be included in open space?
- Should school sites be total area including parking or play areas only?
- Should area of school buildings on site be taken out of open space?
- Should cemetery land be included in open space?
- Should Underwood Pool area include actual pool area as open space?
- Should town parking lots be included in open space?
- Should churches and their parking areas lawns, etc be included ?
- Should Clay Pit Park Pond be included in open space figures?
- Should Little Pond be included in open space?
- Should large 6 and 7 acre private estates be included in open space?
- Should all areas be in acres?
- Should area of streets be included? 83 miles = 400 to 450 acres

PRELIMINARY INVENTORY OPEN SPACE ADDENDUM

April 4, 1996

Atlas page	Location	Area
2	Park front #52 Grove Street	2200 sq. ft.
2	Park front #56 Grove Street	1900 sq. ft.
2	Delta Park Avenue and Grove Street	1700 sq. ft.
9	Island Washington & Grove Street	100 sq. ft.
20,21,23,24	Center Island Concord Avenue	22200 sq. ft.

OS-INV

11.3 NANCY CHILDS, REPORT TO BELMONT CONSERVATION COMMISSION, AUGUST 31, 1995

Ms. Childs says, "The importance of regional greenways and corridors cannot be overemphasized. Open space in metropolitan Boston is increasingly succumbing to development ... Preserving regional greenways is essential to the ecological integrity of an area. Witnessing the sight of a red fox, hawk or an owl in a suburban neighborhood such as Belmont is due to the contiguous network of natural areas still present in this community, which are essential to the habitat requirements of many species such as these."

Different parts of the open space on the McLean property have varying degrees of ecological importance and impact. Several areas contain: a certified vernal pool located in predominantly open fields; another vernal pool is located in a stand of mature mixed woods, near a large red maple swamp, a spring-fed pond and a small brook. Springs on this side of the hill flow into streams that fed Beaver Brook which is part of the Charles River Watershed. Wetlands in this location should be fully protected because their loss could result in flooding in other areas. In another area with steep slopes, two streams originate and flow off of these slopes as part of the Mystic River Watershed.

She concludes her report with the recommendation that much more comprehensive study, including, flora and fauna inventory and an up-to-date map of the wetlands on the property be made.

11.4 PRELIMINARY OPEN SPACE SURVEY QUESTIONNAIRE

Sample Questionnaire
Charts Summarizing Survey Results
Survey Data Base
Instructions for encoding Survey Data Base

**PRELIMINARY SURVEY of the COMMUNITY for the
OPEN SPACE AND RECREATION PLAN of the TOWN of BELMONT**

The Town of Belmont is currently updating its Open Space and Recreation Plan to comply with the Commonwealth's Department of Environmental Management requirements. This document articulates goals and objectives for the Town's recreational and open space areas. By meeting the DEM requirement, Belmont will be eligible to apply for state and federal funding programs designed to acquire or improve open space and recreation resources.

OBJECTIVES (mark with an "X")

Agree

Disagree

1. Maintain existing open space. _____
2. Expand open space from current acreage _____
3. Identify different kinds of open spaces _____
4. Improve the quality of existing open space:
specific sites? _____
5. Your Suggestions(continue on reverse if necessary) _____

USES

For each type of facility listed below, indicate if the Town has an adequate amount:

	Adequate	Adequate with Improvements	Inadequate	No Opinion or Comments
Natural areas	_____	_____	_____	_____
Community Gardens	_____	_____	_____	_____
Small Landscaped Areas	_____	_____	_____	_____
Children's Playgrounds	_____	_____	_____	_____
Neighborhood Parks	_____	_____	_____	_____
Team Playing Fields	_____	_____	_____	_____
Basketball Courts	_____	_____	_____	_____
Tennis Courts	_____	_____	_____	_____
Bike Trails	_____	_____	_____	_____
Cross Country Ski Trails	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____

FUNDING

Would you support appropriating more town funds for increasing our amount of open space?
 YES NO NO OPINION

Would you support appropriating more town funds for upgrading and maintaining existing recreational space?
 YES NO NO OPINION

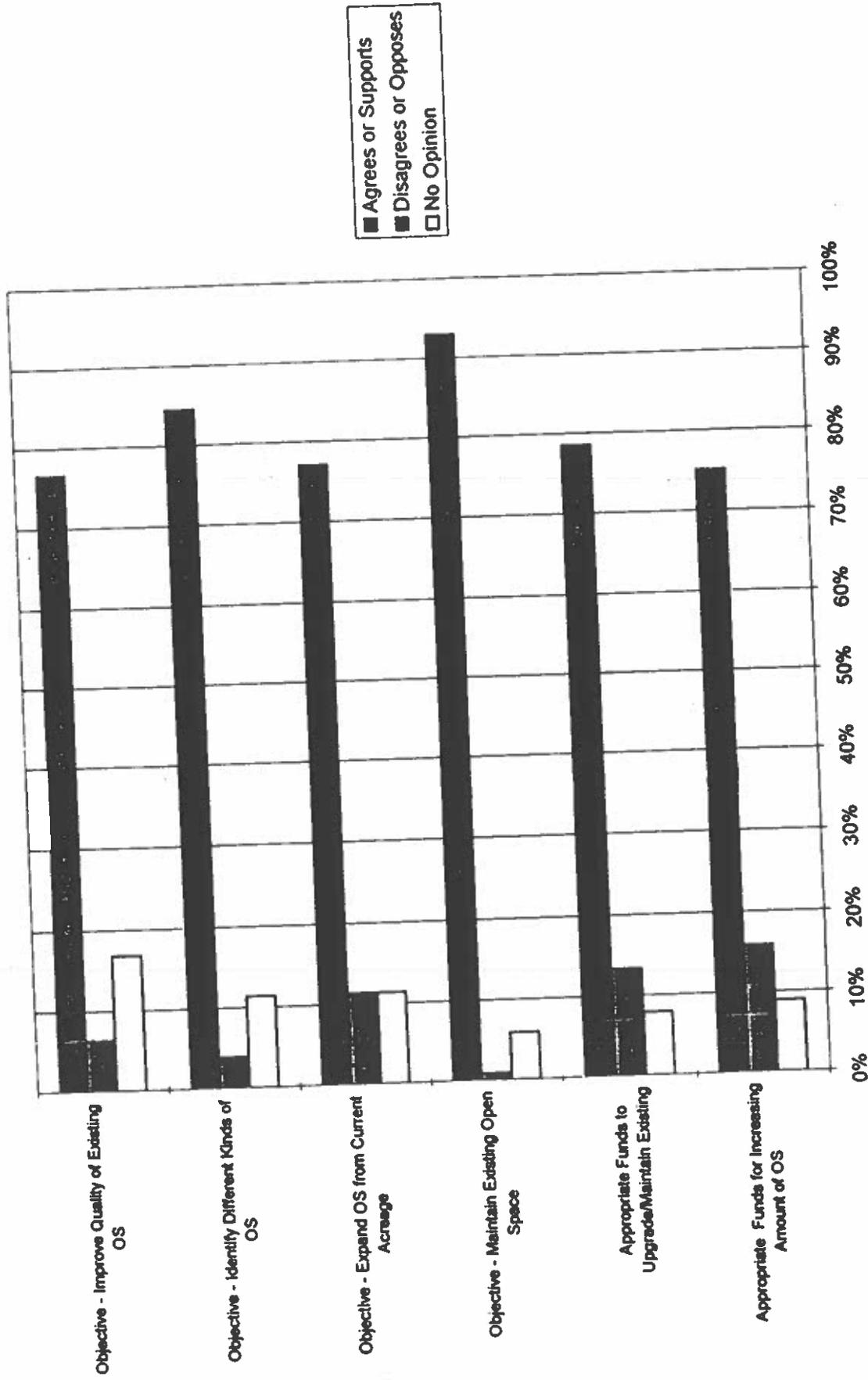
I reside in Precinct (please circle) 1 2 3 4 5 6 7 8

Indicate number of household residents in each age group: Pre-school Elementary
 MS HS College 20's 30's 40's 50's 60's 70's '80's +

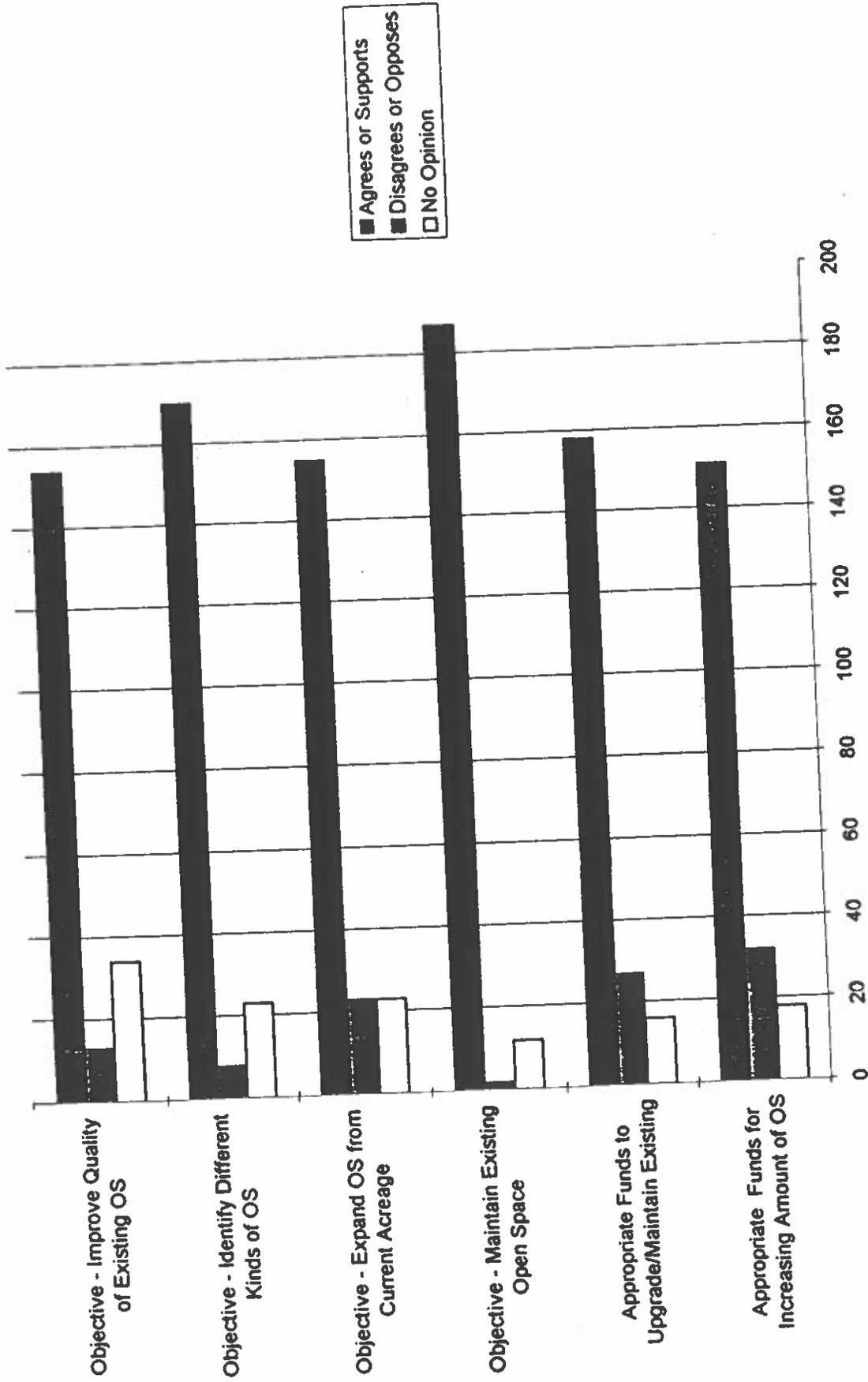
Thank you for taking the time to complete this questionnaire. Please place in the box or return BEFORE MAY 31 to:

Jeffrey A. Wheeler, Planning Coordinator
Town Hall
455 Concord Avenue
Belmont, MA 02178 - 0900

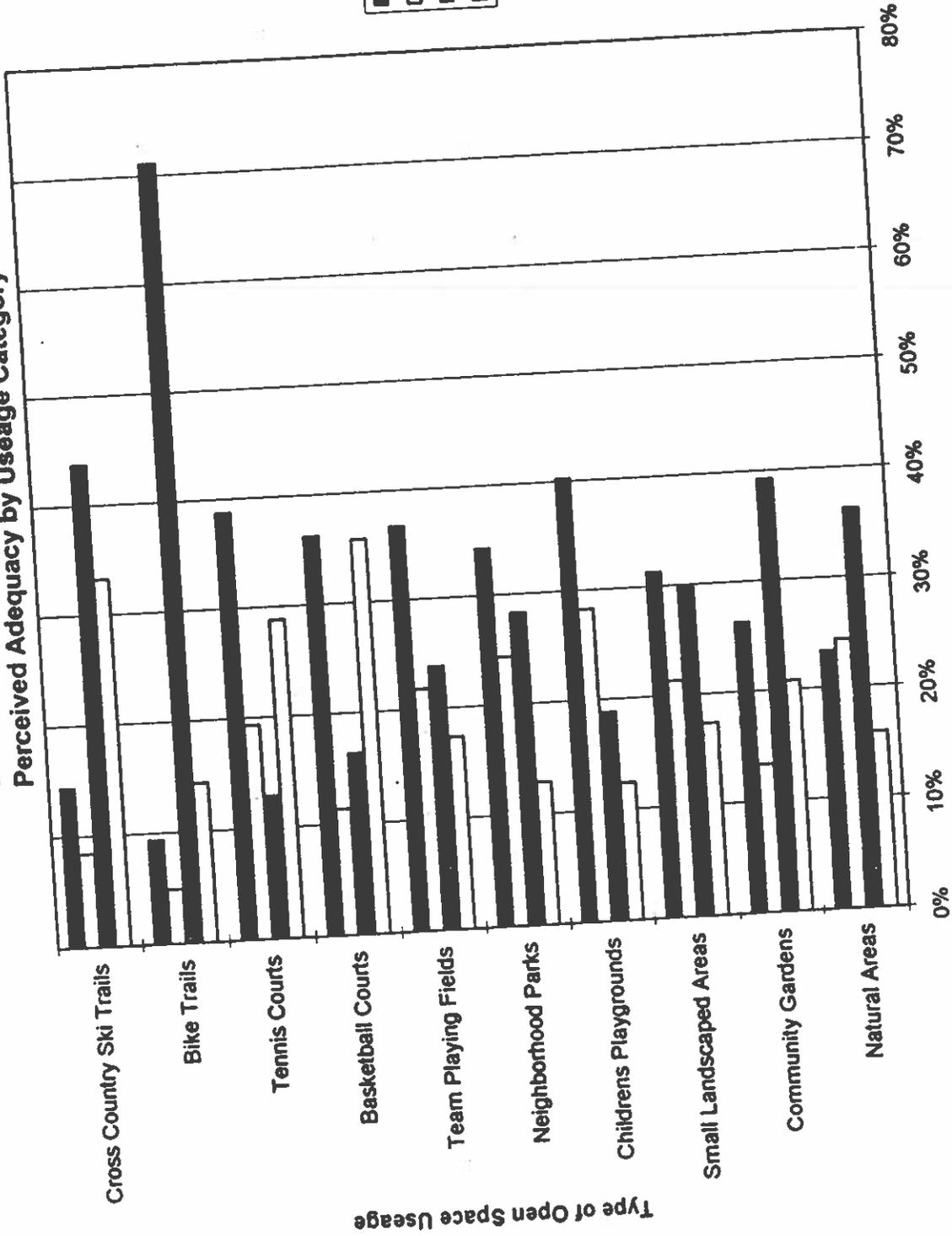
Summary of Responses to Open Space Survey Questionnaire



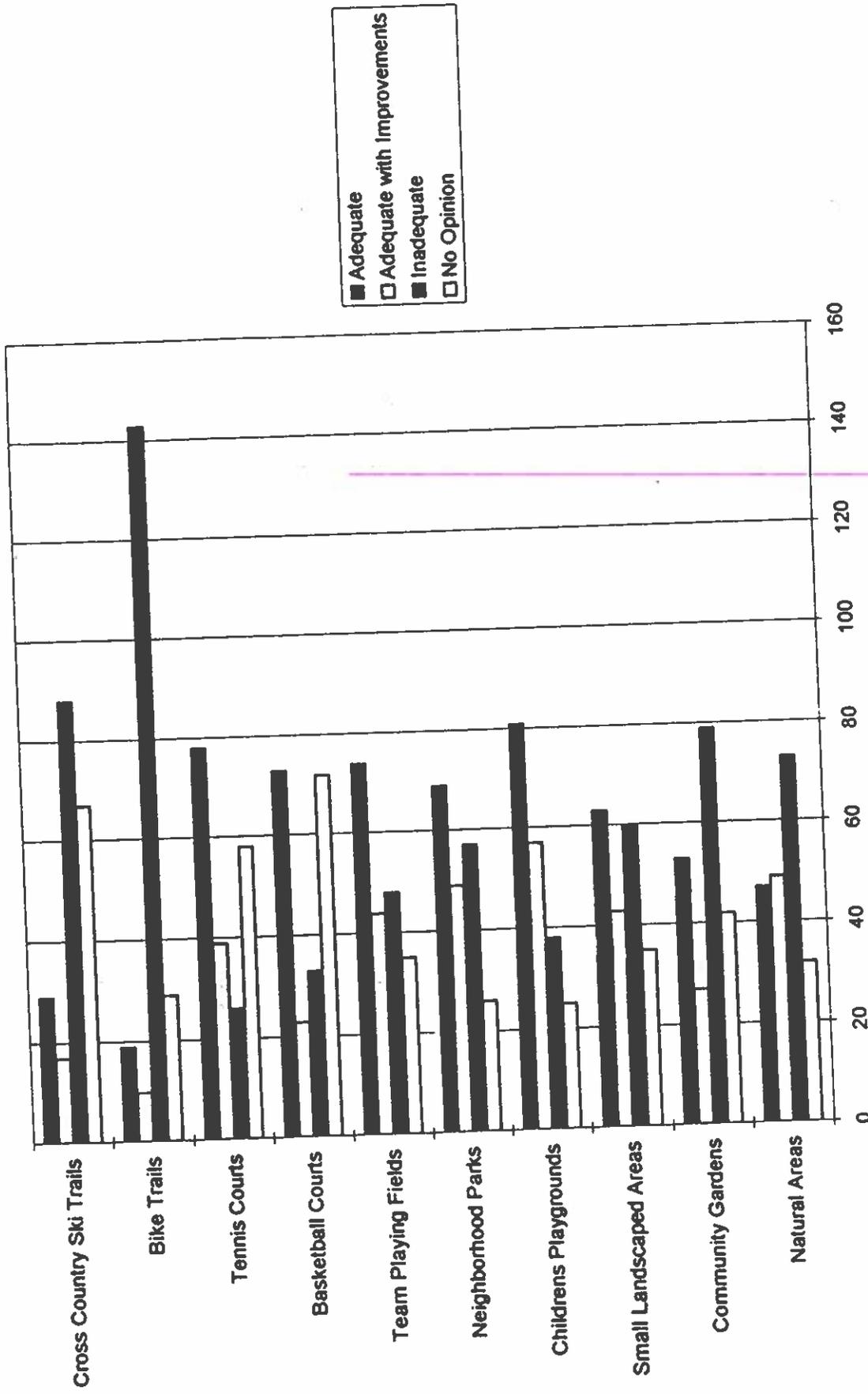
Survey Questionnaire - Raw Counts



**Summary of Open Space Usage Survey -
Perceived Adequacy by Usage Category**



Usage - Raw Counts



11.5 VEGETATIVE SPECIES

11.6 INVERTEBRATES

- a. Aquatic Invertebrates at Habitat*
- b. Pond Organisms at Habitat*
- c. Dragonflies/Damselflies at Habitat*

11.7 FISH

- a. Fish and Wildlife at Alewife*
- b. Fish and Wildlife at Met State*

11.8 REPTILES AND AMPHIBIANS

a. Reptiles and Amphibians at Habitat

11.9 BIRDS

- a. Birds at Habitat*
- b. Birdlife at Habitat: A 50-60 Year Perspective*
- c. Breeding Bird Survey Completed at Habitat*
- d. Birds at Met State*

11.10 MAMMALS

a. Mammals at Habitat

11.11 OPEN SPACE PLANNING COMMITTEE MEMBERSHIP LIST

Open Space and Recreation Plan Working Committee
Names/Addresses and Telephone Numbers

<u>Name/Address</u>	<u>Telephone/Fax/E-Mail</u>
<u>Co-Chairs:</u>	
1. Julie Altshuler 7 Birch Hill Road	489-0240
2. Peter Dorfman 14 Bellevue Road	484-2421
<u>Co-Editors:</u>	
1. Murray Ruben 95 Pinehurst	484-2065 484-7224
2. Susan Timberlake 48 Davis Road	484-3314
<u>Members:</u>	
1. Michael Appel 29 Oak Street	484-4407
2. Michael Baram 29 Ernest Road	489-2915
3. Kathleen Baskin 73 Munroe Street	484-6046
4. Laurie Bennett 10 Juniper Road	489-5050
5. Richard Betts 20 Woods Road	484-7115
6. Lucille Dressler 263 Common Street	484-4890
7. Jenny Fallon 30 Richardson Road	489-3860
8. Nancy Forbes 116 Pine Street	484-8127

Open Space and Recreation Plan Working Committee
Name, Addresses and Telephone Numbers
Page 2

- | | | |
|-----|--|----------|
| 9. | Ruth Foster
270 Somerset Street | 489-4843 |
| 10. | Mark Haley
8 Pine Street | 484-2346 |
| 11. | Gregory Hellyer
33 Channing Road | 484-1844 |
| 12. | Betsey Morse Mayer
39 Choate Road | 484-0491 |
| 13. | John Murphy
36 Stanley Road | 489-2383 |
| 14. | Julie Perkins
64 Pinehurst Road | 489-2356 |
| 15. | Mary Power
16 Clifton Street | 489-5861 |
| 16. | Richard Rosen
162 Washington Street | 484-2229 |
| 17. | Ellen Stevens
81 Old Concord Road | 489-1763 |
| 18. | Heli Tomford
72 Pinehurst Road | 484-0170 |
| 19. | Eric Williams
20 Cutter Street | 489-2348 |

Committee Liaison

Jeffrey A. Wheeler	489-8221
Planning Coordinator	fax: 484-6502
Town Hall	
455 Concord Avenue	
Belmont, MA 02178	