



Figure 3.1: Rolling terrain bordering the Lowell Path in Beaver Brook Reservation, 2005 (Pressley Associates)

Chapter 3

Resource Protection and Land Stewardship Zoning

Resource Protection

Under this Resource Management Plan (RMP), the Department of Conservation and Recreation will manage the expanded Beaver Brook Reservation as a significant natural, cultural, and recreational resource. This management strategy is reinforced by the designations and regulatory protections currently in place at the property which include:

- Protections under the Wetlands Protection Act as administered by the Belmont, Lexington, and Waltham Conservation Commissions;
- Listing on the National Register of Historic Places as part of the thematic nomination for state hospitals and as the first public reservation in the metropolitan park system;
- Specific agreements between DCR, DCAM and the municipalities of Belmont, Lexington, and Waltham related to the Reuse Plan and amendments for the former Metropolitan State Hospital grounds (Beaver Brook North Reservation).
- M.G.L. Chapter 9, Section 26-27c, as amended by Chapter 254 as well as other state regulations (CMRs), which addresses DCR's responsibility regarding the preservation of historic resources.

- Each of these designations, agreements, and regulations has implications for the management of the expanded Beaver Brook Reservation. As a result, the recommendations of this RMP must be consistent with the applicable laws, as well as the professional standards, guidelines, review processes, and practices promulgated by the associated agencies, and the implementation of the recommendations must follow all applicable regulatory procedures.

Natural Resource Regulations

Wetland Protection Act

Existing Wetland Resource Areas, including the Beaver Brook watercourse, riverfront area, surrounding wetlands, floodplain, and vernal pools are protected under the Massachusetts Wetlands Protection Act (WPA, M.G.L. c. 131, s. 40) and its implementing Regulations (310 CMR 10.00). Massachusetts enacted the Wetlands Protection Act in 1963 to protect wetlands, associated resource areas, and floodplains from adverse impacts associated with development and resource area alteration, thus becoming the first state to adopt regulations protecting wetlands. The Act and Regulations set forth a public review and decision making process by which certain wetland resource areas are to be regulated by local conservation

commissions and the Massachusetts Department of Environmental Protection (DEP) in order to ensure maximum environmental protection for environmentally sensitive areas.

The following areas are subject to protection under the WPA: any (a) bank, (b) freshwater wetland, (c) coastal wetland, (d) beach, (e) dune, (f) flat, (g) marsh, or (h) swamp that border on the ocean, any estuary, creek, river, stream, pond, or lake. Also included are land under any of the above listed water bodies, land subject to tidal action, land subject to coastal storm flowage, land subject to flooding, and riverfront area. In certain circumstances, the protected area may include the buffer zone, which is land extending 100 feet horizontally outward from the boundary of certain areas. The WPA contributes to the following eight interests: (1) protection of public and private water supply; (2) protection of ground water supply; (3) flood control; (4) storm damage protection; (5) prevention of pollution; (6) protection of land containing shellfish; (7) protection of fisheries; and (8) protection of wildlife habitat. Any activity proposed or undertaken within an area listed above which will remove, fill, dredge, or alter that area is subject to regulation under the WPA and requires the filing of a Notice of Intent. In addition, activities located within 100 feet of the above listed protected areas which, in the judgment of the local conservation commission, will alter the protected area are subject to regulation under the WPA. 310 CMR 10.00 is intended solely for use in administering M.G.L. c. 131, § 40 with the purpose to define and clarify the process by establishing standard definitions and uniform procedures by which conservation commissions and the Department may carry out their responsibilities under M.G.L. c. 131, § 40.

Minor activities within the buffer zone which are not subject to WPA regulations include:

- Unpaved pedestrian walkways for private use;
- Fencing that will not constitute a barrier to wildlife movement; stonewalls; stacks of cordwood;
- Vista pruning, which is located more than 50 feet from the mean annual high water line within a riverfront area or from bordering vegetated wetland, whichever is farther. (Pruning of landscaped areas is not subject to jurisdiction under 310 CMR 10.00.);
- Plantings of native species of trees, shrubs, or groundcover, but excluding turf lawns;
- The conversion of lawn to uses accessory to residential structures such as decks, sheds, patios, and pools, provided the activity is located more than 50 feet from the mean annual high-water line within the riverfront area or

from bordering vegetated wetland, whichever is farther, and erosion and sedimentation controls are implemented during construction;

- The conversion of impervious to vegetated surfaces, provided erosion and sedimentation controls are implemented during construction; and
- Activities that are temporary in nature, have negligible impacts, and are necessary for planning and design purposes (*e.g.*, installation of monitoring wells, exploratory borings, sediment sampling and surveying).

310 CMR 10.51 through 10.60 details the regulations for the protection of inland wetlands, which includes general provisions, banks, bordering vegetated wetlands, land under water bodies and waterways, land subject to flooding, riverfront area, estimated habitats for rare wildlife, and wildlife habitat evaluations. The Wetlands Protection Act has been revised multiple times in response to critical loss of wetlands over the years.



Figure 3.2: Forested wetlands in the Beaver Brook North Reservation, 2005 (Pressley Associates)

Natural Heritage & Endangered Species Program

The Natural Heritage & Endangered Species Program (NHESP) is a state program under the Massachusetts Division of Fisheries and Wildlife whose sole objective is conservation and protection of Massachusetts' biodiversity. NHESP protects the state's wide range of native biological diversity through 1) Biological Field Surveys and Research, 2) Data Management, 3) Endangered Species Regulation, 4) Rare Species Recovery and Ecological Restoration of Key Habitats, 5) Land Protection, and 6) Education. Currently in Massachusetts, 190 species of vertebrate and invertebrate animals and 258 species of native plants are officially listed as Endangered, Threatened, or of Special Concern under the Massachusetts Endangered Species

Act (MESA; M.G.L. c. 131A). NHESP's primary responsibility is directed towards the regulatory protection of these state-listed rare species and their habitats as codified under the MESA Regulations (321 CMR 10.00) and Massachusetts Wetlands Protection Act (M.G.L. c.131s.40) Regulations (310 CMR 10.00).

The Massachusetts Endangered Species Act (MESA) was enacted in December 1990, while the implementing Regulations were promulgated in 1992 and recently revised on July 1, 2005. These most recent revisions were initiated to clarify MESA filing requirements, implement filing fees, and specify timelines for the regulatory review process. Proposed projects or activities within a Priority Habitat of Rare Species require regulatory review by NHESP to determine whether a "take" of a state-listed species may occur. Priority Habitats are the known geographical extent of habitat for all state-listed species, both plants and animals, whereas a "take", in reference to animals, means to "harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct", and in reference to plants, means to "collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct". Project or activities resulting in rare species habitat modification, degradation, or destruction may result in the disruption of nesting, breeding, feeding or migratory activity, thus constituting a "take". Estimated Habitats are a subset of the Priority Habitats that depict the geographical extent of only state-listed rare wildlife habitat. Projects or activities requiring submission of a Notice of Intent to local Conservation Commissions and the Massachusetts Department of Environmental Protection (DEP) that are also located within an Estimated Habitat require NHESP review.

NHESP has published the *Massachusetts Natural Heritage Atlas* (last updated, July 1, 2003, 11th edition) to depict all Priority and Estimated Habitats located throughout the state. Habitat designations are based upon recent and historic (within the last 25 years) rare species observations/records, which are stored in NHESP's database. Based on the best scientific evidence, NHESP considers the significance of the local rare species occurrence as it relates to the conservation of the species in Massachusetts, including but not limited to, evidence of breeding, persistence, life stages present, numbers of individuals, extent of necessary supporting habitat, and proximity to other occurrences to ultimately conserve and protect Massachusetts' biodiversity.

Municipal Conservation Commissions

The Belmont Conservation Commission is a permanent commission established by the Selectmen as a regulatory body administering the performance standards of the Wetlands Protection Act (MGL c.131, section 40), the Rivers Protection Act (St. 1996, c. 258), preserving the interests of the Rock Meadow Conservation Land and Victory Gardens, and advising other town boards and officials on aspects of conservation and environmental issues. The Belmont Conservation Commission, through the Wetlands By-Law Subcommittee, is working to develop a local Wetlands Protection By-Law.

The Lexington Conservation Commission was established in 1963 to protect and preserve the natural resources of the town and acquire land for conservation and recreation purposes. It administers and enforces protection for wetlands in accordance with the terms of the Federal Rivers & Harbors Act (33 US Code Part 403) and the State Wetlands Protection law M.G.L. 131 section 40A (Orders protecting inland wetlands.) and the Town's Bylaw XXXII for Wetland Protection as amended in 1985, 1990 and 1992. The Commission also may acquire, in the name of the town, land, easements, conservation restrictions or other contractual rights as necessary to maintain, improve, limit the future use of, conserve and properly utilize open spaces in land and water areas of the town and manage and control the same. There are a total of more than 1300 acres of town owned conservation lands in Lexington under the direct control of the Commission. Many other wetland areas under private ownership are protected by conservation easements or conservation restrictions on development. A major aspect of the Commission's work is reviewing, approving and controlling the conditions under which work may be done which affects a river, stream or wetland in Lexington. Anyone seeking to do any work within 100 feet of a wetland, 200 feet of a river or stream, or in *any* area that may cause additional runoff into a wetland, river, or stream must obtain prior approval of the Commission.

The Waltham Conservation Commission is an appointed board of 7 local residents whose primary charter is to protect the city's natural resources in a regulatory and advisory manner. The Commission is responsible for administering the Massachusetts Wetland Protection Act (M.G.L. c. 131, section 40). All projects in the city that are within 100 feet of wetlands (marshes, wet meadows, bogs, intermittent streams, vernal pools, etc.) or 200 feet from rivers and perennial streams must come before the Commission for formal review. The Commission is also concerned with environmental planning, accepting gifts of land and money for conservation purposes, acquiring grant money for town acquisition of open space and advising other town boards on environmental concerns. Of special interest to the Waltham Commission are the Charles River, Cambridge

Reservoir, and Hardy Pond, as well as other major wetlands throughout the city. The Commission also maintains jurisdiction over the Storer Conservation Land.

Cultural Resource Regulations

The former Metropolitan State Hospital is listed on the National Register of Historic Places and the original Beaver Brook Reservation is eligible for listing on the National Register. By law, DCR must consult with the Massachusetts Historical Commission (MHC) for actions affecting NR properties. Beaver Brook North Reservation also contains the historic MetFern Cemetery, which is subject to a distinctive set of laws and regulations related to cemeteries and buried human remains.

The National Register of Historic Places

The National Register of Historic Places (NR) is the nation's list of historic properties worthy of preservation. Properties on the NR are recognized as making important contributions to a community, the Commonwealth or the nation, because of the property's historical significance based on the property's associations with important persons, historical events, design, or archaeological resources. DCR consults NR nominations to identify features that contribute to the understanding of a place as a historic property. Buildings, structures, sites, and objects that are substantial in scale and which relate directly to significance of property are listed as "contributing resources" in the nomination. Smaller individual features, such as specimen trees and site furnishings are often considered "contributing features" in cultural resource planning. DCR uses the period of significance to prioritize features for preservation and to interpret properties. Later features that do not relate to the period of significance are usually given less priority than those that are associated with historic periods.

The former Metropolitan State Hospital land was listed on the National Register of Historic Places in 1994 with architecture, health/medicine, and social history as the areas of significance. While Beaver Brook Reservation is not yet listed, research conducted by the DCR and for this RMP indicates that it is eligible for listing as the first reservation in the Metropolitan Park System. For the purposes of this RMP, it is assumed that the entire expanded reservation is either listed or eligible for listing on the NR.

Secretary of the Interior's Standards

The Resource Management Plan for the Expanded Beaver Brook Reservation has to facilitate diverse objectives, focused primarily on preserving and enhancing the historic character of the reservation, protecting the natural resources of the property, and adapting public use to support sound environmental stewardship. Given the historic significance of the reservation, the RMP reflects the philosophical approaches for the treatment of the historic properties based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, revised in 1995. The Secretary's Standards are the benchmark for preservation practice in the U.S. and provide general principals with four philosophical approaches. The treatments, Preservation, Rehabilitation, Restoration, and Reconstruction define the extent and intent of physical changes proposed for an historic property. The treatments vary in the level of intervention, required documentation and appropriate application as follows.

- **Preservation** is the act or process of applying measures necessary to sustain the existing form, integrity, and material of a historic property, which includes initial stabilization work, where necessary, as well as ongoing preservation maintenance and repair of historic materials and features.
- **Rehabilitation** is the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.
- **Restoration** is the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by removing features from other periods in its history and reconstructing missing features from the restoration period.
- **Reconstruction** is the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

To protect the significant historic features of the expanded Beaver Brook Reservation, DCR will follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes* and the *Guidelines for the Rehabilitation of Historic Buildings*.

Recommended Treatment

The expanded Beaver Brook Reservation is a property actively used by the surrounding community and represents a unique

recreational, natural, and historical resource. The treatment approach for the reservation demands a strategy for long-term management of the landscape in the context of preserving historical significance while balancing issues of natural resource protection, contemporary use and other operational requirements. Based upon the goals and objectives stated above, the RMP recommends the *Rehabilitation* treatment for Beaver Brook Reservation as it is the most flexible and accommodating of the four treatments.

Rehabilitation combines the retention and maintenance of existing historic features, with limited new construction to meet current needs, and allows selected replacement of missing historic features necessary to retain the property's historic character. This treatment approach allows for the adaptation of the historic landscape to accommodate contemporary use by permitting construction of new additions or alterations, which will not impair the site. In addition, it does not require the reconstruction of missing features or the full restoration of the landscape to a specific period of time, which would be unsuitable with existing land use and management capacity. Rehabilitation is thus an appropriate treatment for Beaver Brook Reservation as it expressly addresses historic properties that must continue to meet contemporary uses.



Figure 3.3: Historic restroom building in Beaver Brook Reservation, 2005 (Pressley Associates).

Standards for Rehabilitation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration

of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new material will match the old in composition, design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

NR Regulatory Compliance

Properties listed on the National Register are automatically included in the State Register of Historic Places, maintained by the Massachusetts Historical Commission (MHC), and are protected from adverse effects of actions by state and federal agencies through a review and consultation process. DCR funded, permitted or approved activities at Beaver Brook Reservation are subject to review by the Massachusetts Historical Commission (MHC) as outlined in M.G.L. Ch.9 ss. 26-

27c as amended by Ch. 254 of the Acts of 1988. Activities which utilize federal funding or require federal permits or approvals are reviewed by the MHC as required under Section 106 of the 1966 Historic Preservation Act.

To comply with these regulations, DCR must file a Project Notification Form (PNF) for all work at the reservation, initiating the consultation with MHC. DCR's Office of Cultural Resources is the liaison with the MHC for regulatory compliance and will coordinate development and submission of all PNFs. The MHC will review projects for consistency with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and make a determination of "no effect," "no adverse effect," or "adverse effect." Adverse effect findings require additional consultation with the MHC, possibly including the negotiation of a Memorandum of Agreement between the agencies to outline mitigation to offset the adverse impacts. By law, the MHC has 30 days to review each PNF, so consultation early in the project planning phase is recommended.



Figure 3.4: Former MSH Administration Building on the City of Waltham land adjacent to Beaver Brook North Reservation, 2005 (Pressley Associates).

Laws and Regulations Protecting Burial Grounds in Massachusetts

The MetFern Cemetery on the former MSH is specifically identified as a contributing resource in the National Register nomination. The *Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Cultural Landscapes* provide guidelines for planning and implementation of historic cemetery preservation. Historic cemetery preservation is also governed by the following laws in Massachusetts:

Massachusetts General Laws

Chapter 114: Section 17. Preservation of Ancient Burial Places

A town shall not alienate or appropriate to any other use than that of a burial ground, any tract of land which has been for more than one hundred years used as a burial place; and no portion of such burial ground shall be taken for public use without special authority from the general court. "Burial place", as referred to in this section, shall include unmarked burial grounds known or suspected to contain the remains of one or more American Indian.

Chapter 38: Section 6. Discovery of Skeletal Remains Likely to be Native American

It shall be the duty of any person who discovers unmarked human skeletal remains or who knowingly causes human remains to be disturbed through construction or agricultural activity, to immediately notify the office. The office shall conduct an inquiry to determine whether the remains are suspected of being 100 years old or more, and, if so determined, shall immediately notify the state archaeologist. The state archaeologist shall determine if the skeletal remains are Native American. If the remains are deemed likely to be Native American, the state archaeologist shall immediately notify the commission on Indian affairs which shall cause a site evaluation to be made to determine if the place where the remains were found is a Native American burial site.

Chapter 9: Section 27C. Projects; Notice; Adverse Effect; Review

Any person, corporation, agency or authority of the commonwealth or any of its political subdivisions who shall discover unmarked human burial or skeletal remains suspected of being one hundred years of more pursuant to section six C of chapter thirty-eight, shall immediately cease any activity, including but not limited to, construction and agricultural activity, which would deface, alter, destroy or otherwise impair the integrity of the site until such time as the state archeologist has completed a site evaluation pursuant to paragraph six of section twenty-six A of chapter nine of the General Laws and until disposition of the remains has been agreed upon pursuant to either section thirty-eight A of chapter seven or pursuant to paragraph seven of section twenty-six A, of chapter nine.

Chapter 114: Section 18. Care of Neglected Burial Places within Limits of Town

Any town having within its limits an abandoned or neglected burying ground may take charge of the same and keep it in good order, and may appropriate money therefore, but no property rights shall be violated and no body shall be disinterred. No fence, tomb, monument or other structure shall

be removed or destroyed, but the same may be repaired or restored.

Chapter 272: Section 71. Disinterring bodies

Whoever, not being lawfully authorized by the proper authorities, willfully digs up, disinters, removes or conveys away a human body, or the remains thereof, or knowingly aids in such disinterment, removal or conveying away, and whoever is accessory thereto either before or after the fact, shall be punished by imprisonment in the state prison for not more than three years or in jail for not more than two and one-half years or by a fine of not more than four thousand dollars.

Chapter 272: Section 73. Tombs, Graves, Memorials, Trees, Plants: Injuring, Removing

Whoever willfully destroys, mutilates, defaces, injures or removes a tomb, monument, gravestone, veteran's grave marker or metal plaque, veteran's flag holder that commemorates a particular war, conflict or period of service or flag, or other structure or thing which is placed or designed for a memorial of the dead, or a fence railing, curb or other thing which is intended for the protection or ornament of a structure or thing before mentioned or of an enclosure for the burial of the dead, or willfully removes, destroys, mutilates, cuts, breaks or injures a tree, shrub or plant placed or being within such enclosure, or wantonly or maliciously disturbs the contents of a tomb or a grave, shall be punished by imprisonment in the state prison for not more than five years or by imprisonment in the jail or house of correction for not more than two and one-half years and by a fine of not more than five thousand dollars.

Chapter 272: Section 73A. Removal of Gravestones and Other Memorials for Repair or Reproduction

In any city or town which accepts this section, the provisions of section seventy-three shall not prohibit the removal, in accordance with rules and regulations promulgated by the state secretary, of a gravestone or other structure or thing which is placed or designed as a memorial for the dead, for the purpose of repair or reproduction thereof by community sponsored, educationally oriented, and professionally directed repair teams.

Code of Massachusetts Regulations

- Permits to restore and reproduce gravestones under the provisions of Chapter 448 of the Acts of 1973 shall be issued by the Secretary of the Commonwealth after he shall have satisfied himself that the proposals for such restoration and/or reproduction meet the standards of educational value, community interest, and professional competence. In making this determination the Secretary may call upon the assistance of the staff and members of

the Massachusetts Historical Commission, and local, regional state-wide and national historical and other learned societies and individuals whose expertise he may deem relevant.

- Reproduction of gravestones may only be done for historical purposes by non-profit organizations.
- Request for a permit must be submitted on an application form and shall give a detailed plan of the gravestone restoration project.

The Metropolitan State Hospital Reuse Plan and Associated Documents

The Metropolitan State Hospital Reuse Plan, dated June 30, 1994 and its associated documents set forth a series of specific conditions for the disposition, development, and management of the former hospital grounds. These plans affect both Beaver Brook North Reservation and the City of Waltham land on which DCR holds a conservation easement and are summarized below (see also Appendix G, Volume 2).

Overview

The former Metropolitan State Hospital property was officially declared surplus as of September 15, 1992.¹ The land disposition and development process for the former Metropolitan State Hospital has been coordinated by the Massachusetts Department of Capital Asset Management (DCAM), which serves the Commonwealth by providing professional and comprehensive services to state agencies in the fields of public building design, construction, maintenance and real estate. In 1994, the Metropolitan State Hospital Reuse Plan was prepared through a collaborative effort of DCAM, the DCR (formerly the Metropolitan District Commission), the Department of Mental Health (DMH), and the communities of Belmont, Lexington, and Waltham.² The Reuse Plan incorporated housing, recreational, and open space needs of the communities with those of the Commonwealth of Massachusetts in developing long-range reuse plans for the 340-acre campus site.³

A Tri-Community Task Force consisting of individual representatives from the three communities participated in the Reuse Plan. According to the Reuse Plan, ten individuals represented Belmont, four represented Lexington, and seven represented the City of Waltham. Additional input was provided by many others including municipal managers, engineers, planners, residents, and organizations such as the Beaver Brook Watershed Coalition.

Reuse Plan

The 1994 Metropolitan State Hospital Reuse Plan was prepared by Goody, Clancy & Associates with Leff Consulting, VHB Inc., and Carol R. Johnson and Associates for the Department of Capital Planning and Operations (now DCAM) Office of Real Estate Management and the Tri-Community Task Force. The Plan provided the planning context, findings, analysis of planning issues and reuse capacity and contained seven technical appendices. The Reuse Plan provided the background and conclusions that define state and local approval processes and which support necessary legislative action, environmental review, traffic impact analysis, and local zoning and site plan approvals.⁴ Specific issues contained in the reuse plan that relate specifically to the management and use of Beaver Brook North Reservation are summarized below.

Objectives

The following objectives were defined by the Task Force for the Reuse Plan:

- Creation of a major public open space and preservation of the site's key natural features;
- Redevelopment of portions of the site already largely occupied by buildings, parking, or related outdoor space. Appropriate redevelopment uses include low to moderate-density housing, an institutional use, or a combination thereof; and
- A public nine-hole golf course.⁵

The Task Force further defined the following goals for the site:

- Preserve and protect natural resources on the site as an ecological preserve open to the public;
- Redevelop the site with a mix of publicly beneficial reuses and revenue-producing reuses;
- Consider the site as whole, without regard to municipal boundaries; and
- Carry out environmental clean up as quickly as possible.⁶

Each of the three communities identified specific needs for the site and all strongly endorsed the creation of a DCR [MDC] reservation consisting of wetlands, mature woodlands, an established trail network. New uses should fit in with the neighborhood, with construction activities limited to areas that are not environmentally sensitive. Additionally, the communities sought preservation of the overall campus plan, with its concentration of historic buildings and quadrangle, with preference to the renovation of existing buildings rather than new construction.

Issues Affecting the Reservation

Building on the substantial body of work completed by community open space advocates including the Tri-Community Task Force and the Beaver Brook Watershed Coalition, the Reuse Plan reiterated the importance of the "diverse flora and fauna, and opportunities for solitude in a natural setting" and recommended protection of the "site's 136.5 acres of wetlands, important brooks, fourteen vernal pools, most of Mackerel Hill, mature woodlands, open meadows, important wildlife habitats, vistas, and existing trail network."⁷

The Reuse Plan proposed a new Metropolitan Parkway, now complete, which provides vehicular and bicycle access from Trapelo Road and Concord Avenue. At the present time, both ends of the vehicular parkway are linked by a temporary connector road in the vicinity of the AvalonBay residential development and the MSH Administration Building, with a continuous bikeway extending through the site. The long-term plan for the Waltham golf course includes construction of a parking lot in the vicinity of the former MSH Administration Building, which will be accessible to park users from both Trapelo Road and Concord Avenue.

All of the proposed new development is required to respect the surrounding natural areas, including measures to control run-off and erosion and providing buffers between natural and developed areas. The proposed new development by AvalonBay, began in 2006 and in 2009 is largely complete, includes 387 units of rental housing, including one, two, and three bedroom luxury units; below-market rate rental units; and units reserved for residents age 55 or older. This development and the demolition of the MSH buildings raised some issues for the adjacent reservation, specifically related to construction monitoring and impacts, re-vegetation or disturbed sites, and the unknown effects of increased public use of the new reservation.

Proposed Waltham Golf Course

The Reuse Plan includes provisions for a 9-hole par three golf course on land acquired by the City of Waltham.⁸ This included specific provisions including minimal deforestation of Mackerel Hill, replication of lost wetlands, maintenance of pedestrian connections from Trapelo Road to the reservation, preservation of the large spruce trees, encouragement of winter uses, no user fees, and no driving range. Specific environmental standards for the proposed golf course include the use of Integrated Pest Management (IPM), provide vegetated buffers to filter runoff prior to entering wetlands, maintenance of monitoring wells, monitored purchase of fertilizers and pesticides, completion of an aquatic invertebrate inventory before and after construction, completion of a wildlife inventory prior to construction, and operations with set standards for

groundwater levels. Operating standards for the golf course include employment of a certified golf course superintendent to oversee day to day operations. Lastly, the Reuse Plan stipulated an Advisory Committee comprised of three members from the Conservation Commissions of Belmont, Lexington, and Waltham, with the Waltham Conservation Commission having the primary oversight responsibilities related to environmental matters.

At the time of transfer from the Commonwealth to the City of Waltham, the City paid a lump sum of \$600,000 into the DCR Trust Fund, dedicated to the operation and management of the expanded Beaver Brook Reservation. According to the Reuse Plan, three fourths (3/4) of this fund shall be available to be used by the DCR for staffing a ranger or projects not normally funded by the agency. One fourth (1/4) shall remain as principal and be re-invested.

The Reuse Plan also stipulated that a permanent deed restriction (conservation easement) be placed on the golf course, limiting use of the land in perpetuity for "golf course, conservation, playground, recreational and/or park uses" (see below). The Mayor of Waltham, with approval of the City Council, retains the right to transfer the golf course site to the DCR to incorporate it into the expanded Beaver Brook Reservation. Failure to secure a golf course development agreement after a five-year marketing period shall cause the property to revert to the DCR.⁹

First Amendment to the Reuse Plan

The First Amendment, dated September 5, 1995 amended the boundary of the Main Campus Site and the Gaebler Center site, as well as the former MSH Administration Building site, Golf Course site, and the DCR [MDC] reservation site.

Second Amendment to the Reuse Plan

The Second Amendment, dated February 28, 2002 between the municipalities, Tri-Community Task Force, Department of Mental Health, the MDC (DCR), and DCAM set forth new provisions related to the Metropolitan Parkway, survey, disposition documents, the reservation, the golf course and former MSH Administration Building site, and utilities. In concert with the aforementioned Reuse Plan, this is an important document relative to the overall agreements for Beaver Brook North Reservation.

Metropolitan Parkway

This document establishes the physical location of the parkway and the emergency access way, which are "designed to ensure that the Golf Course Site and the MDC reservation site will be retained in perpetuity primarily in their natural, scenic, and open condition for golf course and other recreational, conservation, playground, and park uses..."¹⁰ The amendment defines the golf course parking lot as providing a "vehicular route connecting the cul-de-sacs of the Metropolitan Parkway (North) and the Metropolitan Parkway (South)... designed to allow unimpeded access of [passenger] vehicles."¹¹

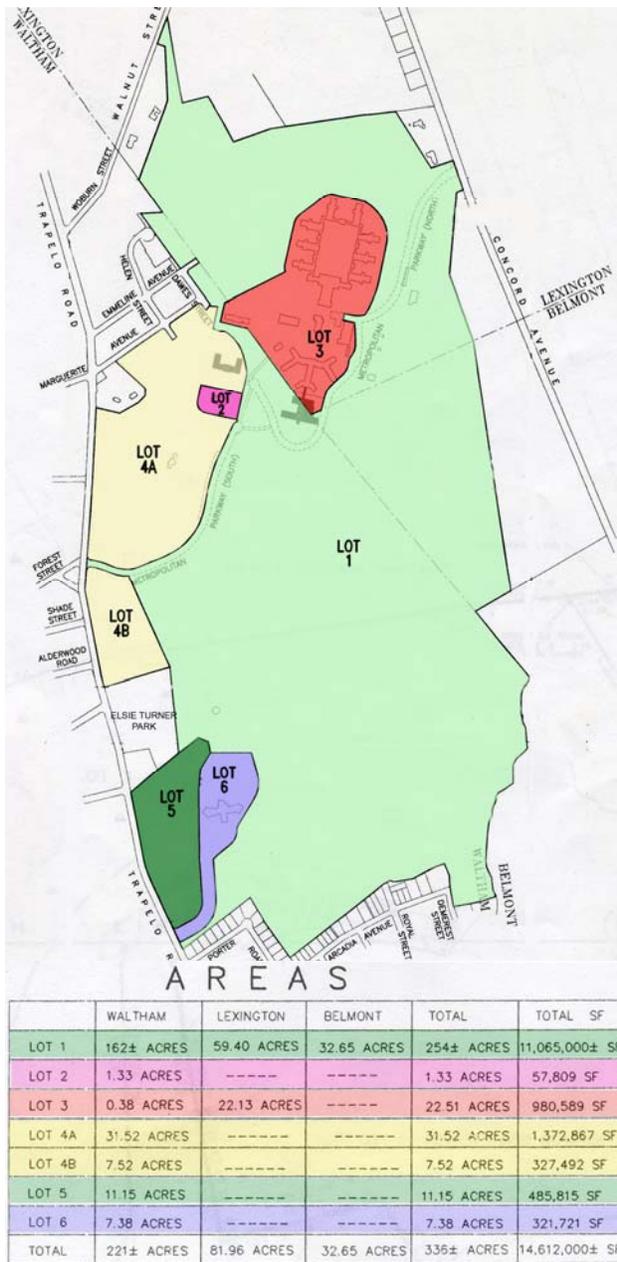


Figure 3.5: Former MSH Subdivision Plan, 2002 (Judith Nitsch Engineering, Inc.)

Disposition Documents

The Second Amendment defines a series of additional documents in order to dispose of the site according to the Reuse Plan. The Care and Control Agreement, summarized below, sets forth conditions related to transferring the reservation site from DCAM to the DCR (MDC). The golf course and former MSH Administration Building site are governed by a Release Deed transferring the site from DCAM to the City of Waltham; a purchase and sale agreement between the City of Waltham and DCAM; a lease agreement between the City of Waltham and the [MDC] DCR, and a conservation easement between the City of Waltham and the [MDC] DCR.

The Second Amendment also clarified issues associated with the granting of rights of way or easements so that DCAM is limited to easements that are directly related to the development of the site. After the completion of the redevelopment of Lot 3 (by AvalonBay), DCAM will have “no further rights ... to transfer care, control, or grant any additional rights of way over the golf course site, former MSH Administration Building site and/or the MDC (DCR) reservation site.”¹²

Release Deed

A release deed signed January 9, 2003 by MDC [DCR] and Commonwealth of Massachusetts grants the release of the four parcels (Lot 2, 4A, 4B, and 5) to City of Waltham in receipt of \$600,000. The deed includes details about uses and restrictions, reservation of easements, easements concerning premises, reverter, and general conditions of the transaction and upholds the Reuse Plan and successive amendments.

Lease Agreement

A lease agreement between the City of Waltham and the Commonwealth, MDC [DCR], signed January 9, 2003 provides for the use of 1,200 sq. feet of the second floor of the former MSH Administration Building (the golf course club house) as a visitor's center. These rights include the construction of common areas such as display reception, conference room, and restrooms. The City of Waltham is responsible for general capital improvements and repairs to the building including structural integrity, repair and renovation of the building, including but not limited to the roof and heating and electrical systems. The City will further provide the DCR with an allowance of \$34,320 for the construction of the aforementioned common areas necessary to achieve the visitor's center.

Conservation Easement

The conservation easement by and between the City of Waltham and the Commonwealth of Massachusetts provides specific provisions to retain lots 4A, 4B and 5 (the proposed golf

course) “predominantly in their natural, scenic, and open condition for golf course and other conservation, playground, recreational, conservation, and/or park uses consistent with the spirit of the Act, the Metropolitan State Hospital Reuse Plan as amended, Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts, and to prevent any use of the premises that will impair or interfere with the recreation and conservation values thereof.” This prevents construction of any additional buildings, roads, signs, parking areas, utilities or temporary structures beyond what has been previously defined in the Act and the Reuse Plan. Vegetation shall remain, except for removals needed to develop and maintain the proposed golf course or what may be needed for maintenance or conservation purposes. The easement stipulates that the DCR retains access to the golf course for winter recreation, but does not require any maintenance commitment by DCR.

Care and Control Agreement

The Care and Control Agreement between DCAM and the DCR [MDC] dated February 28, 2002 addresses the transfer of land from DCAM to the DCR as a new state reservation consistent with the Reuse Plan, for the area known as Lot 1, the Metropolitan Parkway, and the Emergency Access Way. Under this agreement, the DCR accepted care and control of the new reservation, including maintenance and repair of the new roadways once construction is complete. This agreement reiterates that DCAM will be responsible for the construction of the aforementioned roadways, which may require vehicle and equipment access onto the reservation site during construction. After the development of Lot 3 by AvalonBay, DCAM will have no further right to grant easements in, over, and beneath the reservation.

Under this agreement, the DCR will use the site for a state reservation and park purposes, consistent with the Reuse Plan. “Upon completion of the construction by Asset Management of the Metropolitan Parkway and the Emergency Access Way, MDC [DCR] shall be responsible for all maintenance, repair and upgrades of the Metropolitan Parkway and Emergency Access Way including without limitation plowing, patching, grass cutting, weed control, painting, repairing, repaving, replacement and all other general parkway and utilities maintenance of these services.”¹³

The DCR further agreed that any recreational facilities open to the public on the reservation shall be made available to mental health clients in collaboration with the Department of Mental Health. Regarding the MetFern Cemetery, the DCR also agreed to properly memorialize, preserve, and protect the cemetery, allow general public access, and maintain two existing rights of

way that provide access and egress to the cemetery – a footpath from the Gaebler Building, and the carriage path.¹⁴



Figure 3.6: Carriage path in the Beaver Brook North Reservation, 2006 (Pressley Associates).

Other Agreements

A cell tower is currently located on the water tower at the summit of Mackerel Hill. Income from the lease is paid into the Massachusetts General Fund, and does not directly benefit the park land. Vehicular access to the top of Mackerel Hill for cell tower maintenance currently extends from the former Gaebler School property, which has been recently acquired by the City of Waltham.

DCR Land Stewardship Zoning

Resource Management Plans must protect cultural and natural resources, and ensure consistency and appropriate balance between recreational needs, resource protection, and sustainable forest management (M.G.L. Chapter 21, Section 2F). DCR Land Stewardship Zoning Guidelines provide a general framework for the long-term management of state parks, forests and reservation. These Guidelines define three zones, which are identified for all properties in an RMP. The Guidelines also define significant feature overlays, which are applied as appropriate depending on the unique characteristics of a specific property. The application of the three zones at Beaver Brook is summarized below; for a more detailed description, please see Appendix C.

Applicable Land Stewardship Zones

The expanded Beaver Brook Reservation has three applicable stewardship zones with cultural and natural resource overlays. The original reservation is predominantly Zone 2 with the exception of active recreation areas under Zone 3. Beaver

Brook North Reservation is also primarily covered under Zone 2 except for rare species habitat areas and the cemetery under Zone 1 and the Metropolitan Parkway with associated development under Zone 3.

Zone 1

General Description

This zone includes unique, exemplary and highly sensitive resources and landscapes that require special management approaches and practices to protect and preserve the special features and values documented in the Resource Management Plan. Examples of these resources include rare species habitat identified by the Natural Heritage & Endangered Species Program as being highly sensitive to human activities, fragile archaeological or cultural sites, and unique or exemplary natural communities. Management objectives emphasize protecting these areas from potentially adverse disturbances and impacts.

General Management Guidelines

- Only dispersed, low-impact, non-motorized, sustainable recreation will be allowed provided that the activities do not threaten or impact unique and highly sensitive resources.
- Existing trails and roads will be evaluated to ensure compatibility with identified resource features and landscape, and will be discontinued if there are suitable sustainable alternatives. New trails may be constructed only after a strict evaluation of need and avoidance of any potential adverse impacts on identified resources. New roads may only be constructed to meet public health and safety needs or requirements; however, the project design and site planning process must avoid any potential adverse impacts on identified resources and demonstrate that there are no other suitable alternatives.
- Vegetation or forest management will be utilized only to preserve and enhance identified resource features and landscapes.

Zone Description

Both potential and certified vernal pools possess rare species habitat with a sensitive ecological balance. In Beaver Brook North Reservation, Zone 1 includes the buffer zones (100 feet setback) around a cluster of five certified and five potential vernal pools and the historic MetFern Cemetery. There are no areas designated as Zone 1 in Beaver Brook Reservation.

Zone 2

General Description

This zone includes areas containing typical yet important natural and cultural resources on which common forestry practices and dispersed recreational activities can be practiced at sustainable levels that do not degrade these resources and that hold potential for improving their ecological health, productivity and/or protection through active management. Examples include terrestrial and aquatic ecosystems characterized by a diversity of wildlife and plant habitats, rare species habitat that is compatible with sustainable forestry and dispersed recreation, agricultural resources, cultural sites and landscapes. Zone 2 areas may be actively managed provided that the management activities are consistent with the approved Resource Management Plan for the property.

General Management Guidelines

- Management approaches and actions may include a wide range of potential recreational opportunities and settings that are consistent and compatible with natural resource conservation and management goals.
- Protect and maintain water quality by providing for healthy functioning terrestrial and aquatic ecosystems.
- Provide a safe, efficient transportation network with minimal impact on natural and cultural resources while serving public safety needs and allowing visitors to experience a variety of outdoor activities.
- New trails may be allowed dependent upon existing area trail densities, purpose and need, physical suitability of the site, and specific guidelines for protection of rare species habitat and archaeological resources.
- Sustainable forest management activities may be undertaken following guidelines established through eco-region-based assessments, district level forestry plans, current best forestry management practices, and providing for consistency with resource protection goals.
- Utilize Best Management Practices for forestry and other resource management activities to encourage native biodiversity, protect rare species habitats and landforms.
- Roads may be constructed if access for resource management or public access is needed and construction can be accomplished in an environmentally protective manner. Existing roads will be maintained in accordance with the DCR road classification system and maintenance policy.

- Additional site-specific inventory and analysis may be needed prior to any of the management activities described above to ensure that no adverse impacts occur to previously un-documented unique and sensitive resources and landscape features.

In addition to the general guidelines described above, a specific guideline for Beaver Brook is to perform vegetation management in and around the historic archaeological sites.

Zone Description

All non-developed areas with cultural and natural resources that can tolerate visitor use and recreational activities at a sustainable level are classified under Zone 2. In Beaver Brook Reservation, Zone 2 includes the entire northern parcel and the entire Waverley Oaks parcel except for the intensively used and maintained areas - the parking areas, tennis courts, ball field and the spray pool and adjacent picnic pavilion and restroom areas. In Beaver Brook North Reservation, Zone 2 includes all of the property excluding areas under Zones 1 and 3, which cover a cluster of vernal pools and the historic cemetery (Zone 1) and the Metropolitan Parkway, adjacent bike path, and the future DCR parking area (Zone 3).

Zone 3

General Description

This zone includes constructed or developed administrative, maintenance and recreation sites, and resilient landscapes which accommodate concentrated use by recreational visitors and require intensive maintenance by DCR staff. Examples include areas developed and deemed appropriate for park headquarters and maintenance areas, parking lots, swimming pools and skating rinks, paved bikeways, swimming beaches, campgrounds, playgrounds and athletic fields, parkways, golf courses, picnic areas and pavilions, concessions, and areas assessed to be suitable for those uses.

General Management Guidelines

- The management approach and actions will emphasize public safety conditions and provide for an overall network of accessible facilities that meets the needs of DCR visitors and staff.
- Maintenance of these facilities and associated natural and cultural resources, and new construction or development, will meet state public health code, and state building code and environmental regulations and standards.
- Shorelines and surface waters may be used for recreation within constraints of maintaining public safety and water quality.

- Historic restoration, rehabilitation or reconstruction for interpretation or adaptive reuse of historic structures will be undertaken only in conjunction with a historic preservation plan.
- To the greatest extent possible, construction will include the use of "green design" for structures, such as use of low-flow water fixtures and other water conservation systems or techniques, solar and other renewable energy sources, and the implementation of Best Management Practices to protect the soil and water resources at all facilities.



Figure 3.7: MetFern Cemetery and adjacent carriage road, Beaver Brook North Reservation, 2009 (Pressley Associates).

Zone Description

All areas developed for intensive recreation use and transportation amenities that require higher levels of monitoring and maintenance are categorized into Zone 3. Zone 3 includes the parking areas, tennis courts, ball field, and the spray pool and restroom area in the southern Waverley Oaks parcel of In Beaver Brook Reservation. In Beaver Brook North Reservation, Zone 3 is limited to the Metropolitan Parkway, the adjacent bikeway, and the proposed DCR parking area.

Significant Feature Overlays

General Description

The three land stewardship zones may be supplemented with significant feature overlays that identify specific designated/recognized resource features. These significant features are generally identified through an inventory process or research, and are formally designated. The purpose of these overlays is to provide more precise management guidance for

identified resources and to recognize, maintain, protect, or preserve unique and significant values, regardless of the zone in which they occur. Examples of significant feature overlays include Forest Reserves, areas subject to public drinking water regulations, or areas subject to historic preservation restrictions.

Cultural Resources Overlay

The Cultural Resource Overlay within Beaver Brook Reservation includes the entire Historic Reservation and MetFern Cemetery in Beaver Brook North Reservation. This includes the cultural landscape to be addressed in a recommended future National Register nomination for the original Beaver Brook Reservation, including landscape features extant from the primary and secondary periods of significance, and historic buildings and structures such as the dams and mill foundations, historic Copeland House, Stearns barn, picnic pavilion, and restroom facility as well as the two prehistoric sites within the southern Waverley Oaks portion of Beaver Brook Reservation. The MetFern Cemetery in the Beaver Brook North Reservation is one of two extant features in the reservation, identified as contributing resources in the National Register listing for former the Metropolitan State Hospital. It is a sensitive resource and needs special protection to preserve its cultural significance. All of the areas covered by the Cultural Resource Overlay should be treated following the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the *Guidelines for the Treatment of Cultural Landscapes*, with archaeological evaluations completed prior to ground disturbance.

Natural Resource Overlay

The Natural Resource Overlay within the expanded Beaver Brook Reservation, including both properties, covers potential vernal pools that need further evaluation to determine their significance. This overlay includes a 100-foot buffer along the periphery of the vernal pools for resource protection and management. The specific guideline associated with this overlay is to manage these areas consistent with any and all regulatory requirements for Certified Vernal Pools, until and unless it is determined through field research that these areas do not function as vernal pools. Other wetlands in the reservation are largely in zone 2, where they afforded protection under the Massachusetts Wetland Protection Act and DCR management policies.

Endnotes

¹ Metropolitan District Commission, Office of Planning. "A Proposal for the Creation of a Public Reservation at the

Metropolitan State Hospital, Waltham, Lexington, and Belmont, MA," June 1994, p. 1.

² Massachusetts Department of Capital Asset Management
www.mass.gov/cam/comproj/re_cp/cp_metropolitan_st.html

³ Ibid.

⁴ Massachusetts Department of Capital Planning and Operations. "Metropolitan State Hospital Reuse Agreement," p. 4.

⁵ Massachusetts Department of Capital Planning and Operations. "Metropolitan State Hospital Reuse Agreement," p. 3.

⁶ Reuse Plan, p. 7.

⁷ Reuse Plan, p. 11.

⁸ This RMP includes a further evaluation of the golf course relative to the reservation, which is included as Appendix E.

⁹ Reuse Plan, p. 14.

¹⁰ "Second Amendment to the Metropolitan State Hospital Reuse Plan," p. 2.

¹¹ Ibid.

¹² Ibid., p. 4

¹³ "The Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance Care and Control Agreement." February 28, 2002, p. 5.

¹⁴ Ibid.