

Landmark Designation Report

Houghton Beech Tree, 1000 Massachusetts Avenue

Cambridge Historical Commission  
August 15, 1985

Landmark Designation Report

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I. Location

The Houghton Beech Tree is located at 1000 Massachusetts Avenue between Harvard and Central Squares on parcel 7, assessors plan 121. This parcel totals 21,648 square feet, and has 100 feet of frontage on Massachusetts Avenue, 95 feet on Green Street, and depth of 227 feet. The lot slopes steeply from Massachusetts Avenue to Green Street, with a difference in elevation of twenty-five feet, and is presently paved for parking. The tree is located about two feet from the west property line and about thirty feet south of Massachusetts Avenue.

The adjoining lots on the east have recently been redeveloped with a four-story office building that extends from Bay Street to the east property line of parcel 7; a current proposal would extend this building onto parcel 7 and approach but not require removal of the Houghton Beech. Adjoining the tree on the west is The Cantabridgia at 1010 Massachusetts Avenue, a six-story apartment building constructed in 1899. Across the Avenue is the Orson Welles Theater complex, an apartment building, and a one-story storefront. Once a prestigious residential street, this section of Massachusetts Avenue is now best characterized as in transition from a low density commercial strip to an area of mid-rise office buildings.

## II. Description

The Houghton Beech is a mature tree of the species Fagus sylvatica or European beech. It is approximately eighty feet high and measures 3.2 feet in diameter at a height of four feet six inches above the ground. Estimates of its age range from 100 to 140 years old. It has been evaluated by one professional arborist as being in fair to good condition, and by another as being in good health.

The European Beech generally is valued for its "strong, dense form and enormous spread and height". The smooth, grey bark contrasts attractively with the bronze leaves, which form dense shade. The tree may grow to a height of 100 feet and a spread of 70 feet, and have a life expectancy of 300 years or more. A special characteristic of this species is the closeness of the roots to the surface. This makes it almost impossible to grow anything below a beech tree, but also makes it easy to move even as a mature tree. However, beeches cannot stand compaction of the soil or even moderate fill over the root system; extraordinary care is thus required to protect a beech tree during and after a construction project.

## III. History of the Property

The property at 1000 Massachusetts Avenue was developed in 1836, when the Middlesex High School was constructed on the site. The building, a porticoed Greek Revival structure, was

later occupied by the Hopkins Classical School. In 1857, the school buildings having been removed, the property was conveyed to Henry O. Houghton, who immediately constructed a mansion in the Second Empire style designed by Calvin Ryder. After Houghton's death in 1895 the house was occupied by his daughters, and, in 1917, use of the building was given to The Avon Home as a residence for orphans. The Avon Home occupied the building until 1945, and after many years of office use it was torn down in about 1976. Since that time the premises have been used as a public parking lot. The property is now held in common with adjoining parcels at 974 and 988 Massachusetts Avenue, which have been developed with an office building constructed in 1982. The final stage of construction has been designed, but will not be undertaken until market conditions warrant.

#### IV. Significance

The Houghton Beech is significant as an example of a desirable specimen tree and for its associations with the Houghton family. European Beeches are by definition not native to this country and are not commonly found as volunteers; they have been regarded as important landscape trees since their introduction and are generally intentionally planted to enhance the landscape. They are highly distinctive in appearance and are widely regarded as a tree of exceptional value.

Henry Houghton was one of Cambridge's most important citizens during the nineteenth century. Founder of the Riverside

Press and the Houghton Mifflin firm of publishers, Houghton was an industrialist who also wielded great influence in literary circles, and was Mayor of Cambridge in 1872. His house, built in 1856, was significant as one of the earliest residential examples of the Second Empire style in the Boston area. The grounds included a large carriage house, which was demolished in 1926. No views of the original landscaping have been found.

#### V. Threats to the Proposed Landmark

The properties that include the Houghton Beech have been under development since the late 1970s. The initial stage, a four-story office structure, was completed by Spaulding & Slye in 1983, and provisions were made by the architects, Symmes, Maini & McKee, for an extension to be built to the west. The developer does not intend to develop the site immediately, but wishes to have all the elements of a development plan in place so that construction can begin at any time.

The proposed extension is a six-story structure that will join the existing building on the west. The footprint of the building will resemble a dumbbell shape, in that the east bays that now approach Massachusetts Avenue will be balanced by a similar projection on the west, adjacent to the tree, and the receding entrance bays will be in the center of the combined facade.

As presently planned, the foundation will be within sixteen feet of the tree trunk. While the northwest corner of the

building is notched back nine feet from the west wall and twenty-eight feet from the north wall, the setback does not increase the distance from the foundation to the tree. The fifth and sixth stories are also set back from the north and west facades, but the corner of the building closest to the tree is still only sixteen feet from the trunk for the full six-story height of the structure. A concrete exit ramp will run along the north wall all the way to Massachusetts Avenue, passing within three or four feet of the tree.

The impact of a new building placed adjacent to a mature tree is felt strongest during construction through the impact on the root system and from pruning. European Beech trees are notably susceptible to damage from compaction of the soil around the roots and from backfill operations; the addition of only two or three inches of soil over the roots is said to cause long-term damage. During construction, at least a quarter and perhaps a third of the root system would be severed, and with construction of a concrete exit ramp, at least fifty percent of the root system would be affected. In addition, approximately twenty percent of the crown on the east side of the tree would be removed.

The developer has submitted reports from two arborists who were requested to evaluate the construction plans and suggest mitigation measures. One estimated that if a program of careful pruning, feeding, irrigation and misting were undertaken, the tree had a seventy-five percent chance of surviving five years

and a sixty percent chance of lasting ten years. Alternatively, the developer has offered to relocate the tree to the park on the Green Street side of the site, citing successful moves of mature beech trees in Washington, D.C., and in Boston. No information has been submitted concerning the long-term success of such moves.

#### VI. Relationship to Criteria for Landmark Designation

The proposal to designate the Houghton Beech as a landmark raises new issues for the Commission and requires careful interpretation of the meaning and intent of Ordinance 1002. In addition, the Commission must consider the geographical extent of any landmark designation, as well as the degree to which future maintenance of the tree would be regulated.

Section (4) of Ordinance 1002 establishes criteria for landmark designation. It states that the Commission ". . . may recommend for designation as a landmark any property . . . being or containing a place, structure, feature or object which it determines to be either (a) importantly associated with one or more historic persons or events, or with the broad architectural, cultural, political, economic, or social history of the city or the Commonwealth, or (b) historically or architecturally significant (in terms of period, style, method of construction, or association with a famous builder) either by itself or in the context of a group of structures. . . ."

Notwithstanding the primary intent of the ordinance, which was to allow designation of man-made structures considered

worthy of preservation, the language, as it describes a "feature or object", need not be stretched far to include a tree, which is certainly an object and, in this case, demonstrably was planted purposefully. The Houghton Beech can also be said to be "importantly associated" with an historic person. Criteria (b) clearly is meant to refer to structures.

The Commission must also consider the extent of the designation. If the entire property is designated, the Commission must evaluate the proposed new extension and any future alteration to it. This must be done, according to Section (8) of the Ordinance, with consideration of the ". . . historic and architectural value and significance of the site or structure, the general design, arrangement, texture and material of the features involved, and the relation of such features to similar features of structures in the surrounding area. In the case of new construction or additions to existing structures, a commission shall consider the appropriateness of the size and shape of the structure both in relation to the land area upon which the structure is situated and to structures in the vicinity, and a commission may in appropriate cases impose dimensional and setback requirements in addition to those required by applicable provisions of the zoning ordinance. . . ."

The appropriateness of the new addition at 1000 Massachusetts Avenue may not be as important as the impact it may have on the continued viability of the tree. Notwithstanding

the language of Section (8), the intent of any designation that includes the new structure should be to protect the tree from unnecessary violence, not to effect changes in the superficial appearance of the building. The last paragraph of Section (8) may be applicable: "A commission may not make any recommendation or requirement except for the purpose of preventing developments incongruous to the historic aspects, architectural significance, or distinctive character of the landmark. . . ." Causing the death or impairment of the tree through adjacent new construction might be construed to be an incongruous development.

Continued maintenance of the tree is an additional issue. Neglect of the tree during and after construction could easily kill it, even if designated a landmark. The arborists consulted by the developer have recommended specific procedures to protect the tree during construction and have recommended an annual maintenance program of feeding and irrigation. Such recommendations cannot easily be incorporated into the designation and enforcement may be problematical if the owner is unwilling. Finally, tree surgery in the future might logically be subject to the certificate process, and the Commission would have to ensure that a professional arborist's advice is available.

#### VII. Recommendation

Preservation of the Houghton Beech is a desirable objective that may best be accomplished by other means than landmark designation, although this action could be held in reserve

if negotiation is not successful. The purpose of designation would be the long-term preservation of the tree, to which the most critical threat is the construction of 1000 Massachusetts Avenue. If the developer, the petitioners, and the city can agree on measures that will preserve the tree before construction begins, landmark designation may not be necessary. If this cannot be accomplished, landmark designation and review of the plans for the new building may be required.



# City of Cambridge

-Agenda-Item-No.-8-

(Calendar Item No. 11)

IN CITY COUNCIL

-October-21,-1985  
October 28, 1985

**ORDERED:**

That the Houghton Beech Tree at 1000 Massachusetts Avenue be designated as a protected landmark pursuant to Chapter Two, Article XVI, Section 2-147(k) of the Code of the City of Cambridge, as recommended by vote of the Cambridge Historical Commission on October 3, 1985. The premises so designated are within the limits of parcel 7, assessors plan 121, and include the area beneath the drip line of the tree as extended five feet in all directions, as described on a plan by the City Engineer titled "Houghton Beech Tree, 1000 Mass. Ave. Historical Comm. Protected Landmark" and dated October 18, 1985.

This designation is justified by the prominence of the tree and its associations with Henry O. Houghton, former Mayor of Cambridge and founder of the Riverside Press and the Houghton-Mifflin Company, whose house once stood on this site.

The effect of this designation shall be that no construction activity can take place within the designated landmark area, and no action can be taken affecting the appearance of the tree, that would in either case be visible from a public way without review by the Cambridge Historical Commission and the issuance of a Certificate of Appropriateness, Hardship, or Nonapplicability, as the case may be. In making determinations, the Commission shall consider the effect of the proposed activity or construction on the long term life expectancy of the tree and the continued visibility of the tree from nearby public ways. The Commission shall consult with the Committee on Public Planting on all issues concerning the maintenance of the tree.

In City Council October 28, 1985.

Adopted by a ye and nay vote:-

Yeas 8; Nays 0; Absent 0; Present 1.

Attest:- Paul E. Healy, City Clerk.

DATE: NOV 13 1985

A TRUE COPY ATTEST:

A true copy;

ATTEST:-

*Paul E. Healy*  
Paul E. Healy, City Clerk.

*Paul E. Healy*

CITY CLERK