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# CULTURAL LANDSCAPE REPORT

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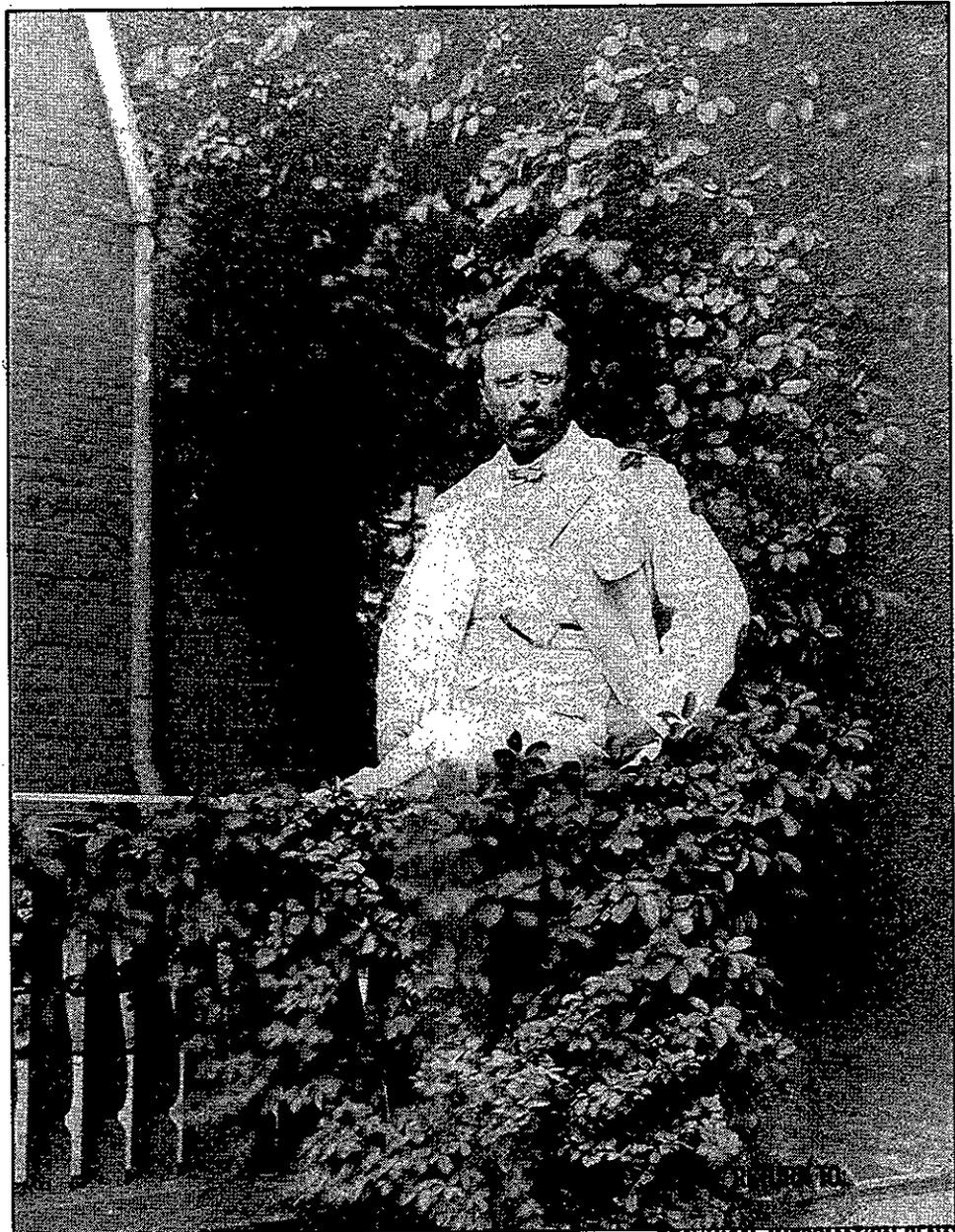
# SAGAMORE HILL

# NATIONAL HISTORIC SITE

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Volume 2: Treatment Recommendations  
and Implementation Plan

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Olmsted Center for  
Landscape Preservation



National Park Service

TECHNICAL INFORMATION CENTER  
DENVER SERVICE CENTER  
NATIONAL PARK SERVICE

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Volume 2: Treatment Recommendations and Implementation Plan

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by

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National Park Service

Boston, Massachusetts

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## ACKNOWLEDGEMENTS

Volume Two of the Cultural Landscape Report for Sagamore Hill National Historic Site represents a collaborative effort between the National Park Service's Olmsted Center for Landscape Preservation, the State University of New York, College of Environmental Science and Forestry, and the Sagamore Hill National Historic Site. Many individuals within these organizations contributed their expertise and experience to the development of this document.

A draft of the broad treatment recommendations within this report were originally developed in 1993 by Regina Bellavia, at that time a Research Assistant for the Faculty of Landscape Architecture at the State University of New York, College of Environmental Science Forestry. The original draft recommendations were completed as a supplement to Bellavia's *Cultural Landscape Report for Sagamore Hill NHS, Volume One* (1995). Bellavia's recommendations, prepared in close consultation with Sagamore Hill NHS staff and under the supervision of Professor George W. Curry, project director at SUNY, were used as the basis for this document.

This document, *Cultural Landscape Report for Sagamore Hill NHS, Volume Two: Treatment Recommendations and Implementation Plan*, was co-authored by Bellavia and David Uschold, Historical Landscape Architects at the Olmsted Center.

The staff of the Sagamore Hill NHS worked closely with the Olmsted Center to complete this project. Vidal Martinez, Superintendent, and Amy Verone, Curator, provided extensive guidance and support throughout the project. We would also like to thank Roger Johnson, Chief of Maintenance, and his staff for their continued assistance.

Katy Lacy of the Olmsted Center and Professor George Curry of SUNY provided editing support and guidance for the final product. This document was prepared simultaneously with the *Preservation Maintenance Plan for Sagamore Hill NHS*, completed by Barbara Harty, Horticulturist at the Olmsted Center. Harty worked closely with the authors of this plan to provide assistance with vegetation issues and to coordinate the efforts of these two documents. In addition, Paul Weinbaum, Lead Historian, of the National Park Service's Boston Support Office, provided review and advice regarding National Park Service policies and compliance concerns. Kevin Mendik, Environmental Protection Specialist, also of the National Park Service's Boston Support Office, reviewed the document and conducted a site reconnaissance survey. Mendik's insights and assistance on compliance with both cultural and natural resource regulations were very useful.

In closing, we would like to acknowledge the administrative staff of the Frederick Law Olmsted National Historic Site for their administrative support as well as their assistance in securing the cooperative agreement with SUNY by which this project was completed.

## ABSTRACT

Sagamore Hill was the home of Theodore Roosevelt, 26th President of the United States, for thirty-nine years. It served as the Summer White House from 1901-1909 and played an important role in Roosevelt's family life. Roosevelt purchased the property in 1880 and constructed the main house and many outbuildings. Throughout his tenure the property was operated as a working farm with a garden, pastures, and agricultural fields that provided fruits and vegetables for the Roosevelt family. Although eventually surrounded by the palatial estates of Long Island's Gold Coast, Sagamore Hill remained a rural country home, an embodiment of the President's ideals of home, family, and love of nature.

Sagamore Hill is located in the village of Cove Neck, Town of Oyster Bay, Nassau County, New York, thirty-five miles from Manhattan on Long Island's north shore. The National Park Service currently operates the property (83 acres) as the Sagamore Hill National Historic Site, to commemorate the life and political career of Theodore Roosevelt.

The *Cultural Landscape Report for Sagamore Hill National Historic Site, Volume 1: Site History, Existing Conditions, and Analysis*, published in 1995, documented the establishment and evolution of Sagamore Hill and inventoried the existing conditions of the site. Volume 1 also assessed the property's historical significance and evaluated the site's integrity. Through a comparison of historic and existing conditions, character-defining features from the historic period were identified. The overall period of significance for the property has been established as 1884-1919, spanning Theodore Roosevelt's tenure at the property.

Volume 1 documents Roosevelt's intense interest and attachment to the landscape at Sagamore Hill—the garden, fields, pastures and woodlands—and broadens the associative significance of his home to include the entire property, and not merely the house. Volume 1 also agreed that the property has additional significance with the main house as an important example of Queen Anne architecture.

Currently, the Secretary of the Interior recognizes four treatments for the management of historic resources: preservation, restoration, rehabilitation, and reconstruction. Volume 2 explores these treatment alternatives and recommends rehabilitation as the most appropriate choice of treatment to be undertaken for the landscape at Sagamore Hill NHS. It outlines through a feature by feature list of tasks how that treatment should be implemented.

In addition, through the course of this project, park staff identified many additional recommendations that may be future considerations for the park. While many of these represent more long-term management recommendations that would not be accomplished as part of this treatment plan, this document provides a logical opportunity to "capture" these ideas.

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## INTRODUCTION

Theodore Roosevelt, 26th President of the United States, established his home on Cove Neck in Oyster Bay, Long Island, New York. He purchased the property in 1880 and constructed the main house in 1885, naming it Sagamore Hill. Roosevelt lived at Sagamore Hill for thirty-nine years, until his death in 1919 (fig. 1).

Theodore Roosevelt was deeply attached to his property at Sagamore Hill, which was the site of many important events throughout his lifetime. The site served as the Summer White House during his two presidential terms from 1901 through 1909. Sagamore Hill was where three of his children were born, where he conducted official Presidential business, where he worked and played and, ultimately, where he died. During his life at Sagamore Hill, Roosevelt maintained the property as a working farm and residence where he raised his large family. The property consisted of agricultural fields, pastures, garden, orchard, woodland, and a beach (fig. 2).

After Roosevelt's death in 1919, his wife Edith remained at Sagamore Hill until her death in 1948. During this period, she encouraged their oldest son, Theodore Jr., to build an estate on the grounds of Sagamore Hill. Theodore Jr. built his home, known as Old Orchard, within the orchard at Sagamore Hill. Although this affected the character of the property, it continued to serve as a working farm.

Near the end of Edith Roosevelt's life, she and her children began discussing the fate of Sagamore Hill with the Roosevelt Memorial Association, which later became the Theodore Roosevelt Association (TRA). In 1948, the Association bought the site with the intention of operating it as a house museum. After a series of demolitions and additions which altered the site's character from that of a working farm to a well-groomed park, the site was opened for the public in 1953.

In 1962 the United States Congress authorized the establishment of the Sagamore Hill National Historic Site as part of the National Park Service. The Theodore Roosevelt Association donated the site to the federal government in 1963. Since that time, the National Park Service has maintained stewardship of the 83-acre site. The character of the site remains much as it was in 1963 when the NPS took over its management.

This report is a response to a request from park management at Sagamore Hill NHS for guidance regarding the protection and management of the site's cultural landscape. This document draws on information presented in Volume 1 of the park's Cultural Landscape Report (1995).<sup>1</sup> Volume 1 documents the historical development of the site, assesses its National Register eligibility, identifies character-defining features, and provides an assessment of the site's historical integrity. Now that the historical development of the landscape has been sufficiently documented the park is ready to determine an appropriate course for the treatment and management of this historic landscape.

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<sup>1</sup> Bellavia, *Cultural Landscape Report for Sagamore Hill National Historic Site, Volume 1: Site History, Existing Conditions, and Analysis*. Olmsted Center for Landscape Preservation, Boston: Government Printing Office, 1995.

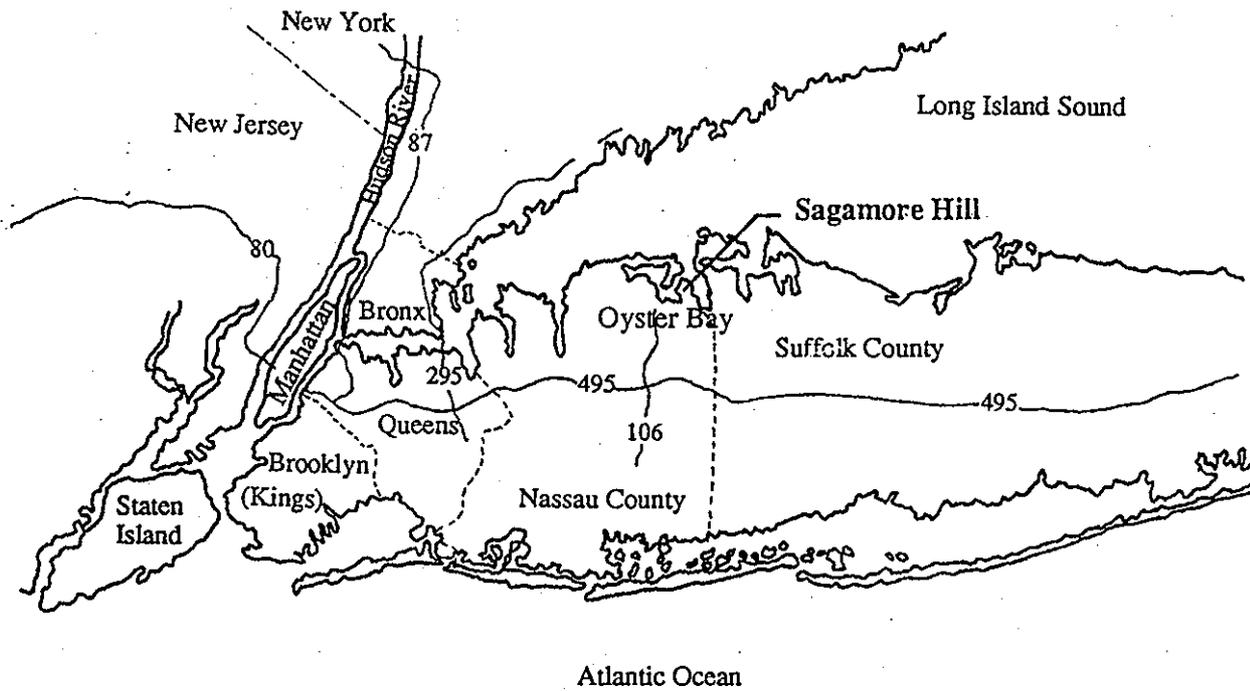


Figure 1: Location Map, Sagamore Hill NHS (Bellavia, 1993).

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NTS

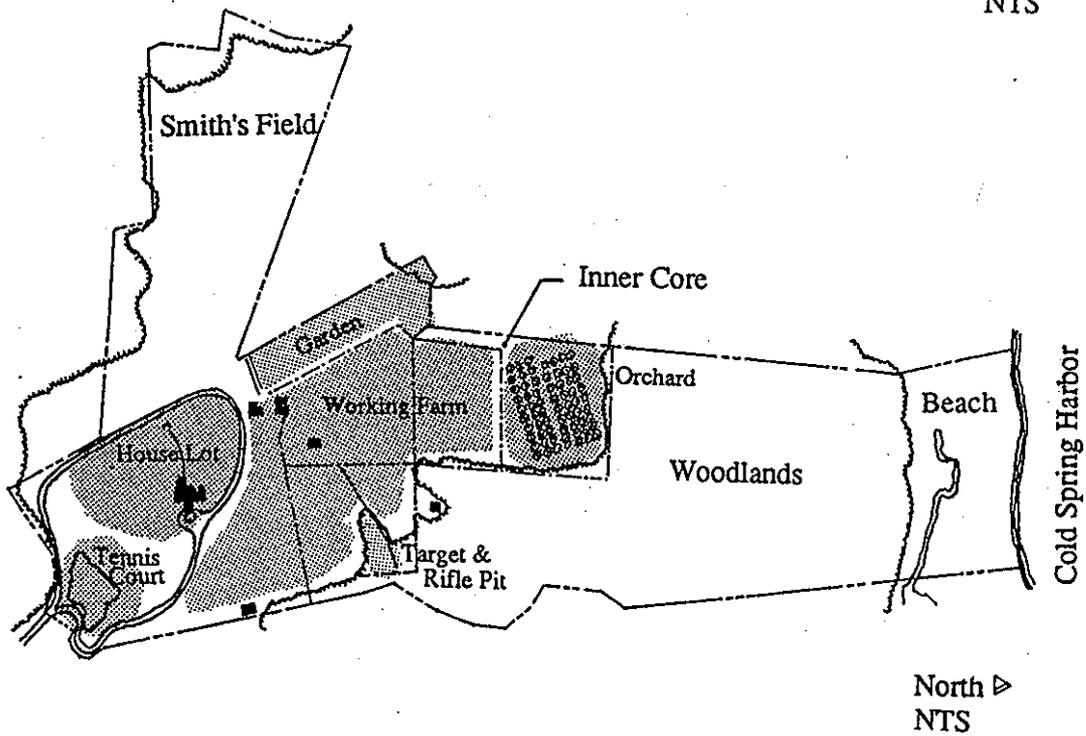


Figure 2: Site Map, Sagamore Hill, Roosevelt stewardship (Bellavia, 1993).

North ▷  
NTS

### Relation to Existing Planning Documents

Treatment and management of a historic property is ideally identified in a park's General Management Plan (GMP) with specific development actions provided in a Development Concept Plan (DCP). According to *NPS-28, Cultural Resource Management Guideline*, "A development concept plan should be coordinated with the development of a CLR (Cultural Landscape Report)."

In 1963, when Sagamore Hill was acquired by the National Park Service, a Master Plan was developed for the site. As the National Park Service's version of a GMP at that time, this plan outlined general management objectives for the park including preservation treatment goals. While not using today's preservation language, the 1963 plan called for a fairly aggressive, though selective, restoration of the grounds to their appearance at the end of Roosevelt's life (1919). It noted that "...farming and outdoor activities Theodore Roosevelt engaged in shall be considered as part of the preservation and restoration of the complex," and that "Sagamore Hill-the house, grounds and woods-shall be preserved or restored as nearly as possible as it was during the historic period...." In addition it stated, "Marking or partial or complete reconstruction of (the historic buildings) shall be undertaken..." and "Existing outbuildings, in place during the presidential years, such as the ice house, shall be returned to their original use condition during that time." Finally, the plan stated that "Eventual relocation of the present necessary parking area and concession facilities shall be effected in connection with future grounds restoration," meaning that the relocation of the parking and concessions would be necessary as a part of future treatment efforts.<sup>2</sup>

The park's *Interpretive Prospectus* (1970), although twenty-seven years old, does briefly address the need to interpret the grounds of the site. However, while it does mention the need, it lacks specific recommendations regarding interpretation of the landscape and concentrates mostly on the house. The park's *Statement for Management*, written in 1980, concentrates on the site's buildings as the primary historic resource and does not define the landscape as either a cultural or natural resource.

In 1987, in response to the park's desire to better define its management goals and current needs, and in light of the fact that the existing Master Plan (1963) was outdated and did not meet the guidelines set forth in *NPS Management Policies*, a scoping meeting was held to explore and outline the need to develop a General Management Plan.<sup>3</sup> Many issues including landscape treatment and interpretation of the cultural and natural resources were discussed. Grounds restoration was itemized as a priority concern for the park stating that "re-creation of [landscape features] would significantly improve the quality of the cultural/natural resources as well as interpretive opportunities." Attendees of the scoping meeting considered several specific issues including the "re-creation of the gardens, tennis court, paths, vista and historic plantings." Additionally, reconstruction of the stable and lodge on its extant foundation was specifically called out as a potential solution to the need for a visitor orientation center.<sup>4</sup>

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<sup>2</sup> U.S. Department of the Interior, National Park Service, *Master Plan, Sagamore Hill National Historic Site*. 1963, p6.

<sup>3</sup> U.S. Department of the Interior, National Park Service, *Management Policies*. 1988, Ch. 2, p6.

<sup>4</sup> General Management Plan Scoping Meeting Report, Sagamore Hill National Historic Site. Oyster Bay, 1987.

However, while this meeting re-affirmed the 1963 Master Plan's identification of restoration as the preferred landscape treatment, the implications of the proposed actions are consistent with the current NPS definition of rehabilitation.

Since 1972, the park has used the *Historic Resource Study, Sagamore Hill NHS (1972)* as the primary source for much of the historical information regarding the Roosevelt stewardship and consequent evolution of Sagamore Hill.<sup>5</sup> The *Historic Resource Study* provides a great amount of detail regarding many aspects of the site, including the landscape. However, the report does not concentrate on the landscape, making it difficult to obtain a comprehensive sense of the landscape's appearance at any given time. In 1995 volume 1 of a cultural landscape report was completed for Sagamore Hill, documenting the evolution of the landscape of Sagamore Hill from its initial acquisition by Roosevelt in 1880 through its establishment as a National Historic Site.<sup>6</sup> The report assesses Sagamore Hill's historical significance and eligibility for inclusion on the National Register of Historic Places. It also identifies the site's character-defining features and analyzes the historical integrity of the existing landscape.

This document, *Cultural Landscape Report for Sagamore Hill NHS: Volume 2: Treatment Recommendations and Implementation Plan*, provides detailed direction on preserving and managing the site's cultural landscape. The specific recommendations included in this report support the basic goals outlined in the park's earlier planning documents while addressing the park's current outstanding management issues as well. When a GMP is prepared, this document, in combination with earlier planning documents will provide a sound basis from which to best plan for the management of Sagamore Hill's landscape.

Concurrent with the production of this *Treatment Recommendations and Implementation Plan*, a *Preservation Maintenance Plan* was prepared for the Sagamore Hill NHS. While the *Treatment Recommendations and Implementation Plan* details specific actions directed toward the treatment of the landscape, the *Preservation Maintenance Plan* concentrates on the preservation maintenance of existing features. To link these two documents, the *Preservation Maintenance Plan* contains sections where features that undergo treatment in the future can be addressed. Therefore, as recommendations called for within the *Treatment Recommendations and Implementation Plan* are completed, the maintenance plan will need to be amended to include preservation maintenance practices for the relevant features. For this reason, the treatment recommendations and maintenance plan were developed in close coordination to enhance the continued preservation and management of Sagamore Hill's landscape.

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<sup>5</sup> U.S. Department of the Interior, National Park Service, Denver Service Center, *Historic Resource Study, Historical Base Map Documentation*, Sagamore Hill NHS. 1972.

<sup>6</sup> While the Historic Resource Study (1972) is a detailed and thorough documentation of many aspects of Sagamore Hill's history, several discrepancies were discovered during the research for the *Cultural Landscape Report for Sagamore Hill NHS: Volume 1*. In these cases, regarding the landscape, the CLR V1 describes and explains each. The CLR V1 documents these discrepancies and is now considered the primary source for landscape information regarding Sagamore Hill.

## Landscape Treatment Issues at Sagamore Hill NHS

Throughout the course of this project, and through conversation with the park staff, the following major issues regarding the landscape at Sagamore Hill were identified. This *Treatment Recommendations and Implementation Plan* attempts to address these issues to the fullest extent possible, while at the same time mitigating the effects of proposed treatments on the historic landscape. The issues identified are broken into management level issues and feature level issues. Management level issues are those which relate to the park in general, not any particular feature, and need to be addressed on a broad, park-wide scale. Feature level issues are those issues that effect individual features or types of features.

### Management Level Issues:

#### 1. Fulfilling Interpretive Goals:

Sagamore Hill NHS was established by Congress in 1962 for the purpose of interpreting to the public "the spirit and image of Theodore Roosevelt, his family and the significant events associated with him during his years at Sagamore Hill."<sup>7</sup> However, current park facilities limit the interpretive potential of the site by focusing mostly on the house, and not the property as a whole. It has always been the intent of the NPS to interpret the entire property.

#### 2. Improving Visitor Orientation:

One of the major issues faced by park management today is the need for improved visitor facilities. Currently, the park has a visitor orientation facility that is temporarily adequate, but does not fully meet the needs of park visitors. The facility acts as a contact point for visitors and provides restroom facilities and a bookstore. However, it is not large enough to accommodate any type of interpretive or educational displays. Furthermore, the existence of the current visitor orientation facility detracts from the historic character of Sagamore Hill. An interpretive museum is currently housed in the main house of Old Orchard at the far end of the property in an extremely inconvenient location. The combination of the visitor center and Old Orchard museum does not provide adequate space. Reaching the park's goal of fully interpreting Theodore Roosevelt's life and political career cannot be adequately accomplished within existing facilities.

#### 3. Existence and Future Use of Old Orchard and TRA-era Facilities:

Sagamore Hill has experienced several changes since Theodore Roosevelt's stewardship of the property. Two substantial additions have been made to the property since Roosevelt's death including the Old Orchard complex constructed in 1937 and the Theodore Roosevelt Association additions to the site during the 1950s (parking lot, visitor center, and circulation elements). While these facilities are useful to the park in terms of its operation, they detract from the site's historic character and, in combination, create an overlay that makes interpretation of the Theodore Roosevelt stewardship difficult.

#### 4. Updating Park Water Supply:

Currently, the park is not connected to the local utility water supply and the water supply system in place at the park does not adequately meet health and safety needs for the park. In particular,

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<sup>7</sup> U.S. Department of the Interior, National Park Service, *Master Plan, Sagamore Hill National Historic Site*. 1963, p3.

an updated fire suppression system is a high priority. However, a project is currently underway connecting the park to public water supply. The project will be complete in 1999. An up-to-date fire suppression system will then need to be implemented.

#### 5. Implications for Future Landscape Maintenance:

The potential benefits of any treatment recommendations for Sagamore Hill must be balanced against implications for future maintenance. Any treatment undertaken must be evaluated for its impact on current maintenance practices and available maintenance resources (budget and staff).

#### Feature Level Issues:

##### 1. Managing Successional Forest Growth in Pastures, Fields, and Meadow:

During the historic period, the landscape at Sagamore Hill included four different agricultural fields and a meadow on the west lawn. These spaces were integral to defining the site's historic character during Roosevelt's tenure. Since that time two agricultural spaces have been abandoned and are experiencing successional forest growth. The meadow in the west lawn has also become much more dense with woody vegetation and is continually being encroached upon by the bordering woodlands.

##### 2. Managing Declining Historic Vegetation:

In 1995, a *Historic Plant Inventory for Sagamore Hill NHS* was completed. A high number of extant trees and shrubs have been identified as being historic. Some of these plants are in a declining state while others remain healthy. In response to this information, a *Preservation Maintenance Plan* is currently being completed for the site to act as a long-term strategy for maintenance and replacement of historic as well as non-historic plants. Since the site's historic vegetation is an important character-defining feature, it is imperative that the *Preservation Maintenance Plan* and this *Treatment Recommendations and Implementation Plan* work together to direct the park in managing the site's vegetation.

##### 3. Contemporary Use of Historic Structures:

With the exception of the carriage house and the chicken coop and toolshed, historic structures at the park are used to serve current park management needs housing administrative, curatorial, maintenance, and staff housing facilities. In order to better interpret the park as a rural home and working farm, some of the contemporary activities currently housed in historic structures should be relocated. Removing current contemporary park activities from the main house and new barn would assist the park in interpretation efforts. The main house, as a focal point of the park, should not be used as to accommodate office and administrative needs for the park. The current use of the new barn, as a park staff residence, does not allow for its interpretation, as a major aspect of the working farm. The central location of the new barn makes it a very visible and prominent structure on the landscape. If the park were able to interpret it as part of the working farm, understanding of the site could be greatly enhanced.

The current uses of other historic structures such as the gray cottage and the Old Orchard complex do not inhibit the park's interpretive goals. With these structures available for use, the park is able to adhere to NPS policy of re-use of historic structures rather than constructing new facilities. The park should continue using the gray cottage as a park staff residence and the Old Orchard complex as residence space, maintenance facility, and museum space.

## Landscape Treatment Alternatives

Sagamore Hill NHS is a federally-owned and managed property listed on the National Register for Historic Places. Therefore, decisions regarding its management should be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Further, the application of the decisions must conform with *NPS-28: Cultural Resource Management Guideline* (Release 4, 1994).

Four approaches are currently recognized by the Secretary of the Interior for the treatment of historic resources: preservation, rehabilitation, reconstruction, and restoration.<sup>8</sup> NPS-28 provides the following definitions of the four treatment alternatives for cultural landscapes:

**Preservation** maintains the existing integrity and character of a cultural landscape by arresting or retarding deterioration caused by natural forces and normal use. It includes both maintenance and stabilization. Maintenance is a systematic activity mitigating wear and deterioration of a cultural landscape by protecting its condition. In light of the dynamic qualities of a landscape, maintenance is essential for the long-term preservation of individual features and integrity of the entire landscape. Stabilization involves re-establishing the stability of an unsafe, damaged, or deteriorated cultural landscape while maintaining its existing character.

**Rehabilitation** improves the utility or function of a cultural landscape, through repair or alteration, to make possible an efficient compatible use while preserving those portions or features that are important to defining its significance.

**Restoration** accurately depicts the form, features, and character of a cultural landscape as it appeared at a specific period or as intended by its original constructed design. It may involve the reconstruction of missing historic features, and selective removal of later features, some having cultural value in themselves.

**Reconstruction** entails depicting the form, features and details of a non-surviving cultural landscape, or any part thereof, as it appeared at a specific period or as intended by its original constructed design. Reconstruction of an entire landscape is always a last resort measure for addressing a management objective and will be undertaken only after policy review in the regional and Washington offices.

A treatment is a physical action carried out to further a historic preservation goal. Determining the most appropriate treatment for a historic resource requires consideration of several factors including "...the historical significance, the physical condition, the proposed use, and intended interpretation."<sup>9</sup>

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<sup>8</sup> U.S. Department of Interior. *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. The pamphlet was completed by the Preservation Assistance Division of the National Park Service, U.S. Department of the Interior, 1992.

<sup>9</sup> Ibid.

## **Recommended Landscape Treatment Alternative:**

### ***Rehabilitation***

Based on consultation with park staff, an analysis of existing planning documents, historical documentation, and an assessment of the integrity of the existing landscape, rehabilitation is the preferred treatment alternative for the landscape at Sagamore Hill NHS.

Sagamore Hill, originally Roosevelt's residence and working farm, today has a new use, as a public park commemorating Theodore Roosevelt. Alterations to the site have been made to allow this new use, and further changes may also be necessary. Although not clearly defined as rehabilitation in the existing Master Plan, the actions and recommendations called for are consistent with the NPS's current definition of rehabilitation. As an overall treatment approach, rehabilitation not only conforms to the intent of the 1963 Master Plan, but it is consistent with the actions specified and treatment implied within the park's other existing planning documents.

Implementing rehabilitation as a primary treatment at Sagamore Hill will allow the park to better accomplish its legislated task of interpreting Theodore Roosevelt, his life and ideals, through this site. Rehabilitation will continue to allow for new, compatible uses for the site, while retaining its historic character. Rehabilitation will also allow the park to repair historic features that have deteriorated or been altered, such as reclaiming agricultural fields and replacing fence lines, therefore, allowing Sagamore Hill to portray its appearance during Roosevelt's tenure.

Under rehabilitation the park can construct visitor orientation facilities on the site as the opportunity presents itself and as long as they do not destroy historic materials and are compatible with the site's historic character. It will also allow the park to retain and preserve later changes to the property, such as Old Orchard, which currently serves a useful purpose. In addition, under rehabilitation, the park can make historically compatible alterations to the site allowing necessary changes such as accommodations for universal access and a new water supply and fire suppression system. Finally, rehabilitation will allow the park's continued use of historic outbuildings for operational facilities while not damaging their historic character.<sup>10</sup>

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<sup>10</sup> The Secretary of the Interior's Standards for Rehabilitation are reprinted on page 9 of this document. *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. Preservation Assistance Division, National Park Service, Department of the Interior, 1992.

### SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

Rehabilitation improves the utility or function of a cultural landscape, through repair or alteration, to make possible an efficient compatible use while preserving those portions or features that are important in defining its significance. The following standards based on the *Secretary of the Interior's Guidelines for the Treatment of Historic Properties* apply:

- A cultural landscape is used as it was historically or is given a new or adaptive use that maximizes the retention of historic materials, features, spaces, and spatial relationships.
- The historic character of a cultural landscape is retained and preserved. The replacement or removal of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a landscape is avoided.
- Each cultural landscape is 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 from other landscapes, are not undertaken. Work needed to stabilize, consolidate, and conserve historic materials and features is physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
- Changes to a cultural landscape that have acquired historical significance in their own right are retained and preserved.
- Historic materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a cultural landscape are preserved.
- Deteriorated historic features are repaired rather than replaced. Where the severity of deterioration requires repair or replacement of a historic feature, the new feature matches the old in design, color, texture, and, where possible, materials. Repair or replacement of missing features is substantiated by archeological, documentary, or physical evidence.
- Chemical or physical treatments that cause damage to historic materials are not used.
- Archeological and structural resources are protected and preserved in place. If such resources must be disturbed, mitigation measures are undertaken including recovery, curation, and documentation.
- Additions, alterations, or related new construction do not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. New work is different from the old and is compatible with the historic materials, features, size, scale, and proportion and massing of the landscape.
- Additions and adjacent or related new construction are undertaken in such a manner that if removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.

### **Landscape Treatment Alternatives Not Recommended:**

#### ***Preservation, Restoration, Reconstruction***

Although rehabilitation is the preferred treatment alternative for the landscape at Sagamore Hill, preservation, restoration, and reconstruction were also fully explored as potential treatments. The following discussion explores the reasoning behind those treatments being determined inappropriate alternatives.

*Preservation* is not an appropriate treatment alternative because it would not accomplish the park goal of fully interpreting the life and political career of Theodore Roosevelt. While the existing site does retain integrity, it does not wholly convey the character present during Roosevelt's tenure. Although many features from the historic period are intact, several changes have taken place resulting in a different overall character for the property. Preservation of the existing site would not allow the park to fully recapture the historic scene of Sagamore Hill as the property representing Roosevelt's political and personal life. In addition, preservation of the existing site would not allow for the alterations necessary for the park to best accommodate visitors. Preservation would limit the park's ability to upgrade visitor facilities by not allowing construction of a new visitor center or accommodations for universal access.

*Restoration* is not an appropriate treatment alternative for Sagamore Hill. While the park's existing management documents call for the depiction and interpretation of the historic scene present during Roosevelt's tenure, they also call for changes to allow the site to be used as a public park, interpreting that historic scene. While restoration would allow for the use of the site as a public park, it would not allow for the changes necessary to accommodate visitor access and use. Specifically, restoration would not allow accommodations for on-site visitor parking, pedestrian paths, or a new visitor center. Restoration would also not allow for the continued presence of non-historic features such as the current parking area and the Old Orchard complex.

*Reconstruction* is not an appropriate treatment alternative for Sagamore Hill NHS because the major character-defining elements and many smaller features of the site's landscape are extant. Changes necessary to re-establish the historic scene of Sagamore Hill do not require reconstruction as an overall treatment.

### **Rehabilitation Strategy for the Landscape at Sagamore Hill NHS**

The recommendations in the following section are intended to guide the future development and maintenance of the landscape at Sagamore Hill. Due to the size and complexity of the landscape and the variety of issues addressed here, the recommendations are broken into two categories: Landscape Rehabilitation Tasks and Additional Treatment Recommendations.

## LANDSCAPE REHABILITATION TASKS

The ultimate goal of these tasks and treatment recommendations is to improve interpretation of Theodore Roosevelt and his life by preserving and/or rehabilitating the character-defining elements of Sagamore Hill as his residence and working farm, and improve visitor orientation, access, and circulation.

An important step towards rehabilitating Sagamore Hill's landscape is the continuing preservation and protection of existing features that are important to maintaining the landscape's integrity and, therefore, convey the significance of the site. This section identifies landscape characteristics and their associated features that are important to defining the site's historic character. It outlines specific physical treatment tasks for each landscape characteristic directed toward the rehabilitation of Sagamore Hill as a whole. Although no features are in critical danger, some require immediate attention to stabilize their condition and ensure their preservation.

Proposed actions include adjustments in maintenance techniques, individual tree replacements, and woodland clearing. While most of these actions will result in only minor adjustments to landscape features and their maintenance, the cumulative effect will have a great impact on the overall character of the landscape at Sagamore Hill. The individual tasks are described through a combination of text and graphics. In addition to individual task descriptions and graphics, all of the tasks are illustrated on Figures 4 and 5.

### **Spatial Organization**

The physical spatial organization and layout of Sagamore Hill during the period of significance (1884-1919) was integral to its character. Historically, Sagamore Hill was divided into two distinct areas including the inner core (the house lot, working farm, flower and vegetable garden, and orchard) and the outer acreage (the woodlands, beach, and Smith's Field). The relationship of these two areas defined the overall organization of the site: a central core of activity bordered by undeveloped natural areas. While changes have taken place within the central core, the overall organization of the property remains and should be preserved as an essential element of its historic character (fig. 3).

### **Inner Core**

The inner core of the property contained six definable areas of its own including the houselot, working farm, flower and vegetable garden, orchard, tennis court, and target and rifle pit. While the inner core remains distinguishable from the outer acreage, several of its interior spaces have changed. Continued preservation and rehabilitation of the inner core's spatial organization will be accomplished through the completion of individual treatment tasks outlined in the remainder of the "Landscape Rehabilitation Task" section of this report. A brief summary of the intended treatment goals for each space is as follows:

- 1.) **Houselot:** Historically the house lot sat on a promontory surrounded by an open lawn with scattered trees and meadow. The open lawn with scattered trees should be preserved. Within the houselot, at the north edge of the lawn, the extant pet cemetery should also be preserved. The cumulative effect of several tasks in the "Vegetation" section will accomplish this goal. Several specific tasks regarding tree and shrub replacement will also effect this goal.
- 2.) **Working Farm:** During the period of significance the working farm consisted of four agricultural spaces separated by a network of fences and containing several structures. Two structures have been lost and two of the agricultural fields have become overgrown with invasive

vegetation. Another agricultural field is partially covered by the visitor parking lot as well as invasive vegetation. Some of the fences have been lost and others are in a deteriorated state. The remaining historic structures, fences, and agricultural field should be preserved. Preservation of the foundations of the lost structures, reclamation of the overgrown agricultural fields, and fence replacement will be addressed the "Structures," "Vegetation" and "Small-scale Features," respectively.

3.) Flower and Vegetable Garden: The flower and vegetable garden, located along the north boundary of the site, was an integral and active part of the property and included an extensive combination of flowers, vegetables, and fruit trees. Treatment of the flower and vegetable garden is addressed in the section "Additional Treatment Recommendations."

4.) Orchard: The orchard, located in the eastern portion of the houselot, is now the site of the Old Orchard complex, Theodore Roosevelt Jr.'s estate built in 1938. Many of the orchard trees remain, despite the construction of several structures within the orchard's boundary. Treatment of the orchard is addressed within the "Vegetation" section.

5.) Tennis Court: During the period of significance, a rather crude tennis court stood at the base of the carriage road. It was defined by the changes in the topography along all four of its edges. The court had a compacted soil surface and was heavily shaded by the surrounding woodland. The outline of the tennis court is extant and somewhat clear of vegetation. The court has been surfaced with shredded mulch to inhibit invasive vegetation growth. The tennis court should be stabilized by removing the remainder of the vegetation and existing tree stumps within its boundaries and the surface should be returned to compacted soil.

6.) Target and Rifle Pit: Roosevelt's target and rifle pit was located in the ravine along the drive to the gray cottage. Historically this space was defined by its dramatic topography. It is unclear whether it was cleared of vegetation or wooded as it is today. The space should be preserved in its current state.

#### Outer Acreage

The property's outer acreage consisted of the woodlands, beach, and Smith's Field. The woodlands and the beach retain their historic character while Smith's field, historically a combination of woodland and agriculture, is now fully woodland. In the context of rehabilitating Sagamore Hill's landscape, the woodlands and beach should be preserved. Smith's Field, the south portion of which is owned by the NPS, was wooded historically and should be preserved as a woodland.

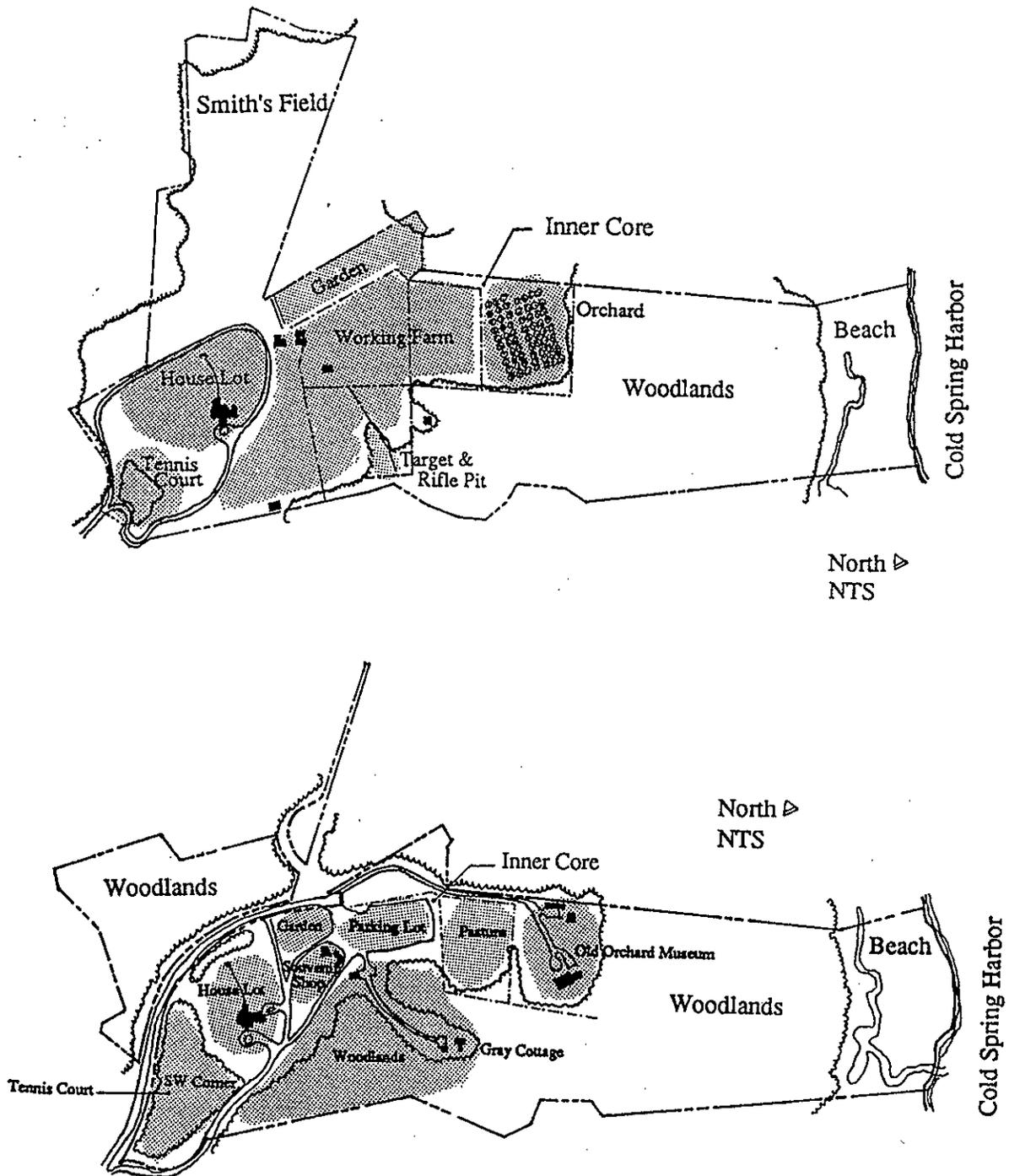
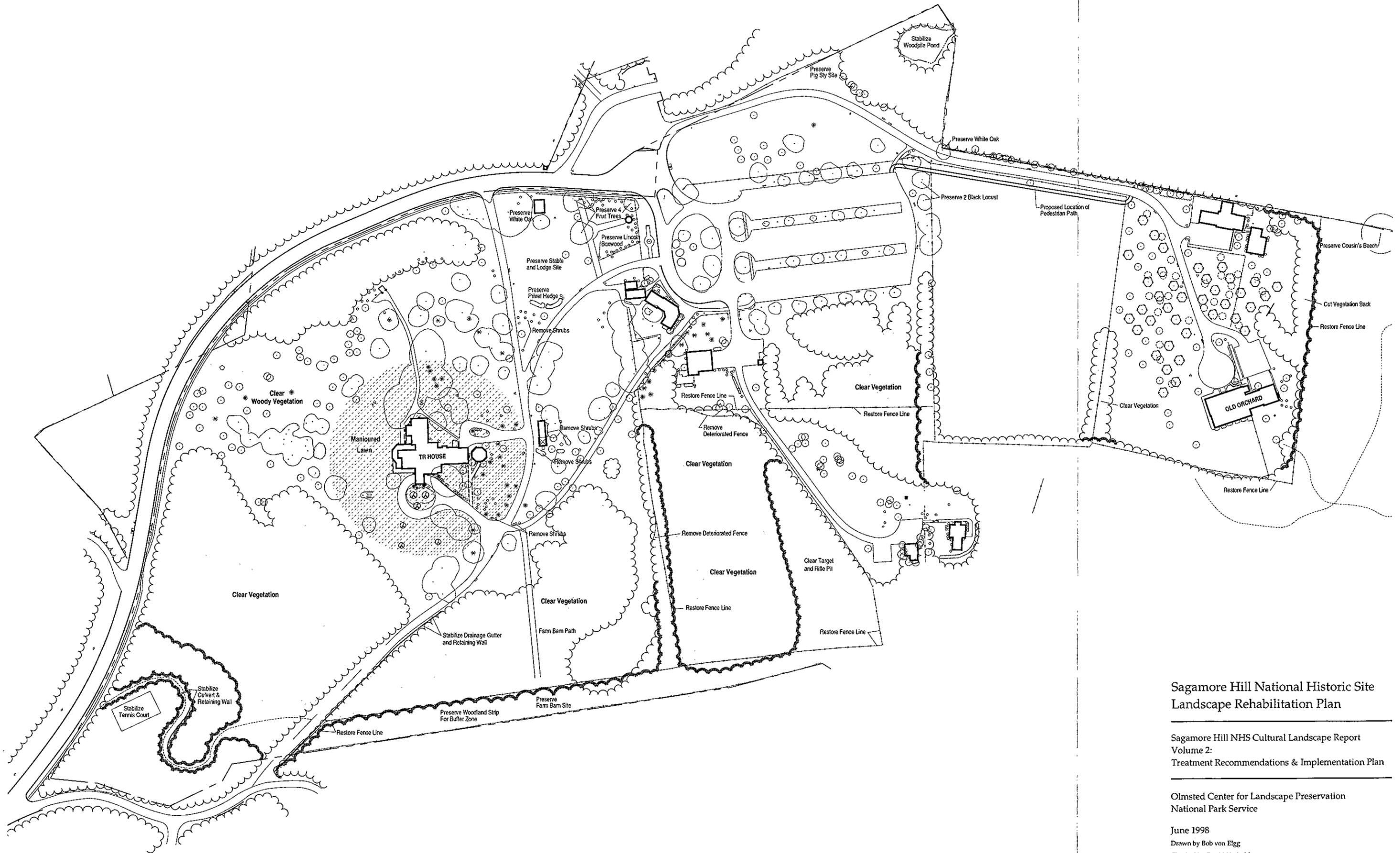


Figure 3: Spatial organization of Sagamore Hill. Top: Theodore Roosevelt stewardship (1919), bottom: NPS stewardship (1993) (Bellavia, 1993).

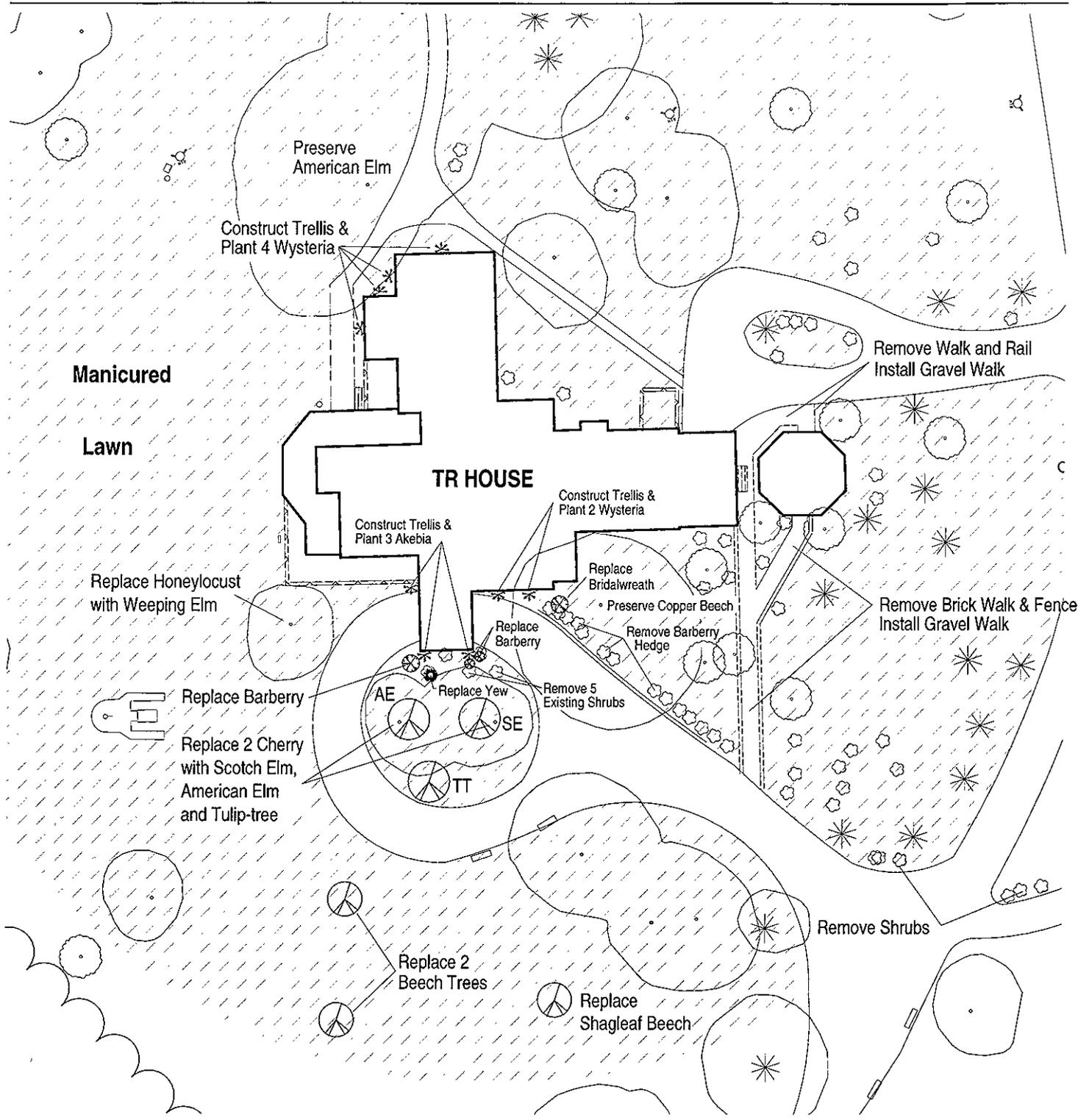


Sagamore Hill National Historic Site  
Landscape Rehabilitation Plan

Sagamore Hill NHS Cultural Landscape Report  
Volume 2:  
Treatment Recommendations & Implementation Plan

Olmsted Center for Landscape Preservation  
National Park Service

June 1998  
Drawn by Bob von Elgg  
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Sagamore Hill National Historic Site  
Landscape Rehabilitation Plan: Historic Core

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## **Structures**

Sagamore Hill had many structures, all of which contributed to the property's function as a working farm and residence. Many of these structures are extant, themselves possessing high integrity. Some historic structures have been altered to accommodate new uses, while only foundations and archeological evidence of others are extant.

### Main House, Gardener's Shed, Carriage House, Chicken Coop and Tool Shed, Pump House and Windmill

Five extant historic structures retain high integrity and should be preserved as essential elements of Sagamore Hill's historic character. They include the main house, gardener's shed, carriage house, chicken coop and tool shed, and pump house. Although the windmill is a reconstruction, it is historically accurate and contributes to the site's historic character. Preservation of all of these structures is called for in the 1963 Master Plan and documented in the current List of Classified Structures (LCS) database.

### Gray Cottage, New Barn, and Ice House

Three extant structures including the gray cottage, new barn, and ice house have undergone alterations that detract from their historic character. However, although they have been altered, these structures continue to contribute to the site's historic character. They should be protected from additional alterations that would cause further loss of historic character. In concurrence with the 1963 Master Plan and the LCS, these structures should be preserved in their current state until such time that park planning efforts may call for their individual restoration or rehabilitation.

While the gray cottage and new barn should be preserved, some thoughts should be kept in mind during their continued use as staff housing. Additional alterations or renovations which might give them a more contemporary appearance should be avoided. For instance, no additions should be appended and no ornamental plantings should be added to the exteriors. Furthermore, any future modifications to these structures such as new windows, repainting, or roofing should be compatible with their historic character.

During the TRA stewardship, the ice house was renovated to be used as public restrooms and several non-historic features were added to the outside of the structure. No longer used as restrooms, the non-historic and obtrusive features should be removed. They include a brick walk and post and chain fence leading from the front and rear drives to the ice house and the post and chain fence from the walk, along the circular drive, to the porte-cochere. Also, the walk and wrought-iron fence on the north side of the ice house should also be removed (fig. 6).

A portion of the ice house walkway should be retained to allow access to the structure and allow visitors to reach the structure and view the interpretive plaque associated with the ice house. However, the non-historic brick walk should be replaced with a more sensitive, less obtrusive surface. The brick walk detracts from the historic character of Sagamore Hill, presenting an ornamental image, and it also presents a safety hazard in winter months due to ice build-up on its surface. The new path should have a gravel surface similar to the existing pet cemetery path. The gravel path should be thirty inches wide and follow the route indicated in Figure 7.

#### Stable and Lodge, Farm Barn, and Pig Sty

Portions of the foundations of the stable and lodge, farm barn, and pig sty are extant. The foundations are important physical records of the site's evolution. They should be preserved in their current state and protected from damage during any future development projects. Further treatment of the stable and lodge foundation is addressed in the "Additional Treatment Recommendations" section later in this document.



*Figure 6: Ice house, 1997 (Uschold, OCLP).*

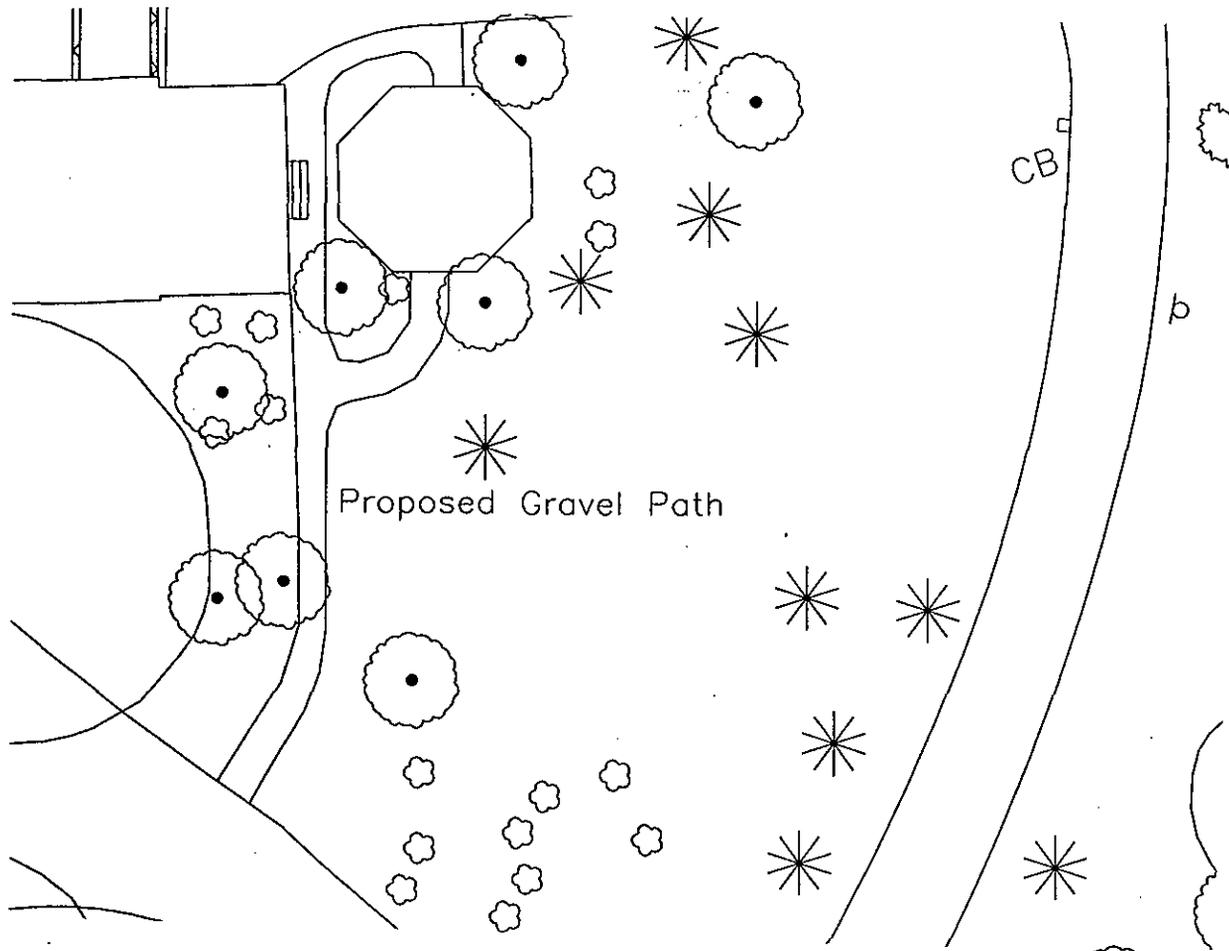


Figure 7: Proposed path to ice house (Uschold, OCLP).

#### Eel Creek Bridge

During the historic period a bridge crossed Eel Creek providing access the beach along Cold Spring Harbor. The original bridge was lost and a replacement with a somewhat different character and materials was constructed in a new location. This area is rarely interpreted and the difference in the current and historic bridges does not largely detract from the historic character of the site. The current bridge should be preserved. In this case, the existence of a rustic wood bridge, crossing the creek is more important than the exact location and construction details. However, if it becomes necessary in the future to replace the bridge, a more historically accurate construction and location should be used.

#### Old Orchard

The complex of structures at the east end of the property known as Old Orchard was built by Theodore Roosevelt Jr. and completed in 1937, eighteen years after Roosevelt Sr.'s death. This complex includes a house, foreman's cottage, garage, and cold cellar. They do not contribute to the historic character of the site

and, in fact, detract from that character.<sup>11</sup> However, they serve a function necessary to the operation of Sagamore Hill as a public park, providing space for needed administrative and maintenance activities. While Old Orchard was constructed within the boundaries of the working farm, the complex was located on the outer edge of the property away from the majority of the site's activity. Although the 1963 Master Plan calls for the removal of these structures, they serve functions that could not be accommodated with existing facilities at the park. Therefore, they should be preserved and continue to serve as administrative and maintenance facilities for the park.

#### Culvert, Retaining Walls, and Drainage Gutter

In addition to the historic structures listed above, several historic site engineering elements should also be preserved. These include a culvert and retaining wall associated with the historic carriage road and a drainage gutter and retaining wall associated with the macadam road which later replaced the carriage road (fig. 8 and 9). Constructed during the historic period in support of the two roads installed by Roosevelt, these features contribute to the historic character of the site and should be preserved. All of these features are in a deteriorated state and should be stabilized.



*Figure 8: Carriage road and retaining wall, 1997 (Uschold, OCLP).*

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<sup>11</sup> The Old Orchard complex at Sagamore Hill NHS was determined to be ineligible for the National Register of Historic Places by the NPS List of Classified Structures with consensus from the New York State Office of Parks, Recreation and Historic Preservation (Bernadette Castro, March 29, 1996). The LCS and SHPO consensus determined Old Orchard to be non-contributing to the historic character of Sagamore Hill. This determination was concurred by the Cultural Landscape Report for Sagamore Hill NHS, Volume 1 (Bellavia, 1995).



*Figure 9: Macadam road and retaining wall, 1997 (Uschold, OCLP).*

### **Vegetation**

During the historic period, the overall vegetation at Sagamore Hill was vernacular in nature, consisting of features common to a working farm including pastures, woodlands, meadows, open lawns with scattered trees, an orchard, and a flower and vegetable garden. All of these features contributed to the property's function as a working farm and residence. Many elements of the historic vegetation are extant and should be preserved. In addition, some of the non-historic vegetation does not detract from Sagamore Hill's historic character and should be retained (see Append. A). Other vegetation elements detract and should be removed.

#### Lawn Maintenance Around Main House

Historically, the area immediately surrounding the main house had an informal character as an open lawn with scattered trees. Today, the lawn itself and the many scattered trees do represent the historic character, but the existence of many pruned shrubs gives the lawn a more manicured character overall than it had during the Roosevelt stewardship. The grass lawn itself is maintained as it was historically, to a height of approximately two to four inches. This height should be maintained for a circular area with about a one hundred-foot radius around the house (fig. 10 and refer to the *Preservation Maintenance Plan* for lawn maintenance specifications).<sup>12</sup>

<sup>12</sup>

*Sagamore Hill NHS: Preservation Maintenance Plan*, (hereafter referred to as SAHI PMP) developed by Barbara Harty of the Olmsted Center, 1997, assesses the condition of vegetation character-defining to the historic period and details the preservation maintenance practices for those features.



Figure 10: Main house and lawn, c.1922 (SAHINHS, no. 1149, Box 6).

#### Tree Preservation/Replacement in Historic Core

Primary attention should be given to the preservation of several prominent historic trees on the lawn around the main house. These trees include the large White Oak (*Quercus alba*, 4-1-1) adjacent to the gardener's shed, a large Copper Beech (*Fagus sylvatica* 'Cuprea,' 1-1-28.5) by the library window, and an American Elm (*Ulmus americana*, 1-1-66) at the north corner of the north room.<sup>13</sup> In addition, a large White Oak (*Quercus alba*, 7-1-7) along the path to Old Orchard should also be preserved. During Roosevelt's tenure, this oak was within the flower and vegetable garden (see SAHI PMP).

In addition to the individual trees on the lawn around the main house, many other historic plants should be preserved. These include two Black Locust (*Robinia pseudoacacia*, 9-1-11 and 9-1-12) at the east end of the parking lot, the "cousin's beech" (European Beech, *Fagus sylvatica*, 6-1-77) east of the Old Orchard garage, and the remaining apples (*Malus sp.*) in the historic orchard in front of Old Orchard. Also, the V-shaped privet hedge (*Ligustrum sp.*, 4-2-43 and 4-2-44) near the stable and lodge foundation and the "Lincoln boxwood" (*Buxus sp.*, 4-2-1) in the garden should be preserved. Several extant fruit trees in the location of the historic garden should also be preserved as potentially historic (see Appendix A for a complete list of the trees that should be preserved).

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<sup>13</sup>

Plant identification numbers used throughout this document refer to numbers assigned within the *Historic Plant Inventory: Sagamore Hill NHS* (1995).

Aside from the extant historic plants, many non-historic plants do not detract from the historic character of Sagamore Hill. Since the time of Roosevelt's death, many of the trees which were planted during his tenure have been replaced with different species. Therefore, many of the mature trees existing around the main house are not historically accurate. However, in combination, these mature trees, combined with the grass lawn, create an historically accurate character for the house lot as a whole in that they convey the appearance of scattered trees on an open lawn, as was the case historically. Although some of the tree species have changed since Roosevelt's tenure, none of the replacement trees are so different from the originals that they create a different character for the lawn. It was the general character of the open lawn with scattered trees that was important, not each individual tree on its own.

Several trees within the lawn, particularly those close to the house have been documented in more detail. In these cases, where species is documented, the historic trees should be replaced with historically accurate species. The existing mature trees should not be immediately replaced but replaced when necessary due to decline or damage. The replacements should be historically accurate species and placed in historically accurate locations. The following trees should follow this premise:

- Common Honeylocust (*Gleditsia triacanthos*, 1-1-36) on the southwest corner of the main house veranda should be replaced with a Weeping Elm (*Ulmus* sp.). The elm (fig. 11) was planted in 1916, during Roosevelt's tenure, and was replaced with a honeylocust by the TRA.
- Two cherries (*Prunus* sp., 1-1-31 and 1-1-32) in the circular lawn adjacent to the porte-cochere should be replaced with a Scotch Elm (*Ulmus glabra*), American Elm (*Ulmus americana*), and Tulip-tree (*Liriodendron tulipifera*) (fig. 11 and 12).

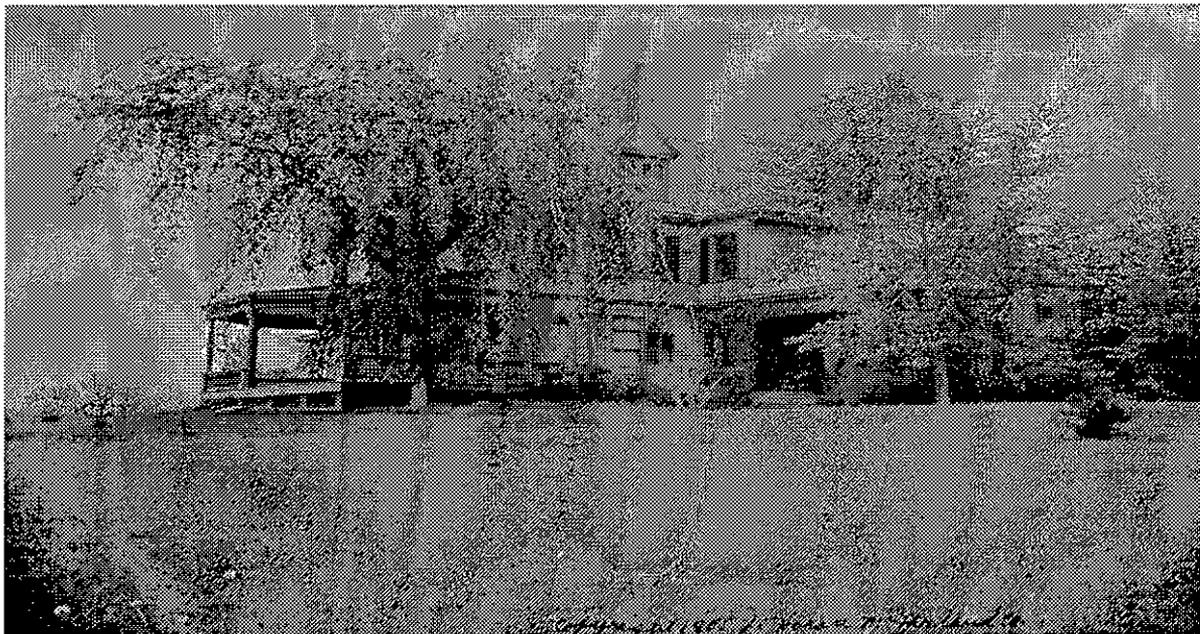


Figure 11: Lawn and vegetation around main house, 1905 (SAHINHS, no. 1117, Box 6).

In addition to the individual plants noted above, many other plants have been identified as potentially historic. These plants are listed in Appendix A, with others that should be preserved, historic and non-historic, as contributing to the overall historic character of Sagamore Hill.<sup>14</sup>

#### Shrub Removal Around Main House

Many non-historic plants exist on the lawn around the main house and detract from Sagamore Hill's historic character. The following shrubs or groups of shrubs create a false image of ornamentation that never existed during the historic period and should be removed:

- the group west of the stable and lodge foundation, adjacent to but not including the v-shaped privet hedge (4-2-34, 4-2-36 thru 42).
- the barberry hedge along the circular drive south of the porte-cochere (1-2-36).
- all shrubs surrounding the windmill (3-2-1 thru 5 and 3-2-8 thru 11).
- all shrubs within the circular drive at the back entrance to the house (1-2-20 thru 1-2-24).
- all shrubs in the lawn southeast of the ice house (1-2-3, 1-2-3 and 4, 1-2-8 and 9, 1-2-37 thru 43, 1-2-45, 1-2 50 and 51).
- Yuccas adjacent to pet cemetery arbor should be removed.

In addition to removing non-historic plantings, no new ornamental plantings should be added to the site. Ornamental shrubs were not a part of the landscape during the Roosevelt stewardship and they should not be added to the site today regardless of the location.

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<sup>14</sup> U.S. Department of the Interior, National Park Service, *Historic Plant Inventory, Sagamore Hill National Historic Site*. Olmsted Center for Landscape Preservation, Boston, 1995.

Historic trees were identified from several sources including the *Cultural Landscape Report: Sagamore Hill NHS: Volume 1* (1995), *Sagamore Hill NHS Historic Plant Inventory* (1995). The included list and assigned numbers correspond to the *Historic Plant Inventory*.



*Figure 12: Plantings around porte-cochere, 1905 (SAHINHS, no. 1123A, Box 6).*

#### Tree and Shrub Replacement Around Main House

Many trees, shrubs, and vines integral to the historic character of the area around the main house have been lost and should be replaced. These include two European Beech (*Fagus sylvatica*, 1-1-37 and 1-1-38) west of the circular drive. In 1995, these two trees were identified as hazardous due to their condition and were removed. Prior to their removal they were propagated for future replacement.<sup>15</sup> These trees should be replaced when the propagated trees can be safely planted (see SAHI PMP).

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<sup>15</sup> The two European Beech trees were propagated by the Olmsted Center for Landscape Preservation in the early 1990s. The propagated trees are being managed at the Olmsted Center's nursery at the Arnold Arboretum.

Lost historic shrubs that should be replaced include a Bridalwreath (*Spirea prunifolia*) southeast of the porte-cochere on the main house, a barberry (*Berberis sp.*) at the south corner of the porte-cochere, a yew (*Taxus sp.*) at the southwest corner of the porte-cochere, and a barberry (*Berberis sp.*) on the north corner of the porte-cochere (fig. 12).

#### Vine Replacement on the Main House

Several species of vines growing on the main house during the Roosevelt stewardship have been lost and should be replaced. However, allowing vines to grow on buildings is often damaging to the structures and makes maintenance more difficult. Because the vines' presence is integral to the historic character of the site, the vines should be replaced. However, their replacement should be done in a manner that avoids damage to the structure. Therefore, a trellis system that will prevent damage to the structure could be used.<sup>16</sup> A conceptual plan for a trellis system for the main house vines is included in Appendix B.<sup>17</sup> The following vines should be replaced on the main house:

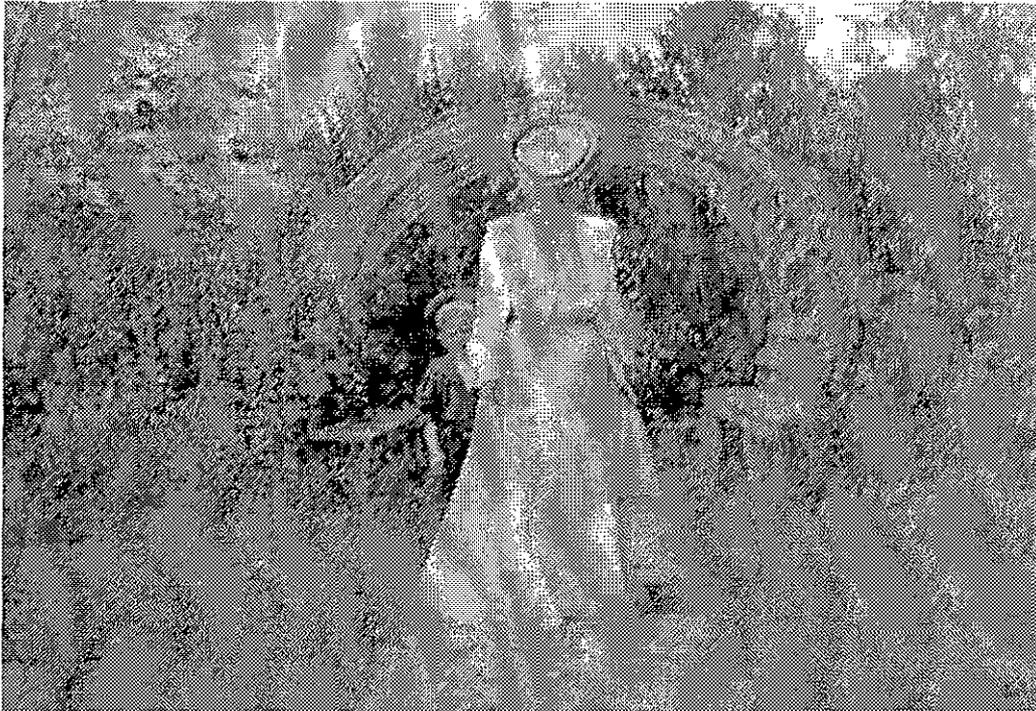
- Fiveleaf Akebia (*Akebia quinata*) should be planted and allowed to grow on all sides of the porte-cochere and a portion of the veranda (fig. 12).
- Wisteria (*Wisteria sp.*) should be planted under the library window and allowed to surround the window (fig. 12).
- Wisteria (*Wisteria sp.*) should be planted along the north and west sides of the north room and allowed to engulf those facades (fig. 10).

In addition to the vines on the house, two Rambler roses should be planted in front of the pet cemetery arbor. One plant should be placed on either side of the arbor at its base. They should be allowed to grow up and over the arbor (fig. 13). The roses should not be planted on the existing arbor but on the replacement arbor specified in "Small-scale Features: Pet Cemetery Arbor" later in this report.

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<sup>16</sup> Day, Karen E. Preservation Tech Note: *Restoring Vine Coverage to Historic Buildings*. U.S. Department of the Interior, National Park Service, Preservation Assistance Division, 1991. The trellis system installed at Sagamore Hill NHS should mimic the concept and design of the trellis used on the house at Fairsted, the Frederick Law Olmsted NHS in Brookline, Massachusetts. A copy of the Tech Note and a project scope and conceptual design for constructing the trellis are included in Appendix B.

<sup>17</sup> When features, such as the vines on the main house, are restored or rehabilitated, it is imperative that the *Preservation Maintenance Plan* be amended at such time. The amendment, or update, should include appropriate methods for the preservation maintenance of the vines and a monitoring schedule to ensure the vine growth does not damage the structure.



*Figure 13: Pet cemetery arbor, 1901 (SAHINHS, no. 1131, Box 6).*

#### West Lawn

Now referred to as the west lawn, the area of lawn west of the main house and extending to the entrance road is somewhat different today than it was historically. Today the lawn is much smaller, encroached upon by woodland growth at the base of the drive, and not as open or as expansive as it was during the historic period. Invasive vegetation has grown within the boundaries of the west lawn, particularly the southern portion. Three steps should be taken in order to return the west lawn to its historic appearance.

- First, the height at which the lawn is currently maintained should be adjusted. Currently maintained at approximately two to four inches, the mowing height should be adjusted to a height of six to eight inches (refer to SAHI PMP). Raising the mowing height from 2-4 inches to a height of 6-8 inches combined with expanding the time intervals between mowing for the existing lawn should provide the desired effect of a less manicured and more rustic lawn. The current species within the lawn have been identified as a mixture of broad-leaf weeds, Perennial ryegrass, and Tall red fescue (SAHI PMP). The species will provide the desired historic appearance when maintained in the prescribed manner. As previously mentioned, the area immediately surrounding the main house (100 foot radius) should continue to be maintained at its current height of 2-4 inches (fig.4).
- Second, non-historic vegetation should be cleared, including both trees and shrubs to redefine the boundaries of the west lawn and return its expansive character. Figure 4 illustrates the specific areas of the west lawn that should be cleared.

*Treatment Recommendations  
and Implementation Plan*

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- Third, a wildflower seed mixture should be sown into the west lawn using a slicer/seeder. The seed mixture should be a combination of grasses and wildflowers but consist mostly of daisies. The exact mixture should be determined by a qualified expert. After the daisies are re-established, the west lawn should only be mowed one or two times per year, allowing the daisies to reach maturity (refer to SAHI PMP).

These efforts, adjusting the mowing techniques, clearing woody vegetation, and re-establishing the meadow, will combine to restore the west lawn. At the same time these efforts will re-establish historic views to and from the main house (fig. 14).



*Figure 14: "Across the field, Sagamore Hill," west lawn, nd, c.1910 (Courtesy of the Library Congress).*

Agricultural Fields and Pastures

During Roosevelt's tenure, four different agricultural fields and pastures existed on the property that is currently within the boundaries of Sagamore Hill NHS. One of these areas remains open pasture, although it is now maintained as a mowed lawn. The three remaining areas have experienced successional forest growth and are now mostly wooded. As a major step in recapturing the historic character of Sagamore Hill, the lost agricultural spaces should be re-established.

### Existing Historic Pasture

The extant historic pasture is located along the northwest side of Old Orchard. During the historic period this field was a cow pasture planted with daisy and clover. Today, the field retains its historic boundaries, however, a different species of vegetation is growing in it, a grass mixture maintained at a height of approximately four inches (fig. 15). The historic character of this field should be re-established through a two step process.

- First, the mowing schedule should be reduced to once per year, giving the space a more agricultural and less manicured character (see SAHI PMP). Raising the mowing height from 4 inches to a height of 8 inches combined with expanding the time intervals between mowing for the existing pasture should provide the desired effect of a less manicured lawn and more rustic pasture. The current species within the pasture have been identified as a mixture of Perennial ryegrass, clover, and Creeping red fescue. These species will provide the desired historic appearance when maintained in the prescribed manner. The field should be maintained in that fashion until such time that it becomes feasible for the park to implement step two.
- Second, return the space to a daisy and clover meadow by adding the appropriate seed mixture. This should be accomplished by slicing the seed mixture into the soil with a slicer/seeder. The appropriate daisy and clover seed mixture should be determined by a qualified expert. The re-established field should be mowed once per year and be kept clear of woody vegetation.



*Figure 15: Existing historic pasture, 1997 (Uschold, OCLP).*

### Historic Pastures That Have Become Wooded

The three spaces, historically agricultural but wooded today, include a triangular-shaped area southeast of the main house and two rectangular-shaped areas east of that (one on the north side of the property and one on the south). The area southeast of the main house containing the windmill and pumphouse is now partially wooded and partially maintained as grass lawn. The north field which contains the new barn is now the location of the visitor parking lot. The south field which contains the gray cottage is mostly wooded with some maintained grass lawn surrounding the cottage. The agricultural character of these spaces should be recaptured. The southeast and south fields should be re-established, as should the portion of the north field not occupied by the visitor parking area (fig. 16).

### Southeast Field and South Field

A gradual method of re-establishing the southeast and south fields could be accomplished through a two step process.

- First, the historic boundaries of each space should be re-established. The woody vegetation should be cleared and the ground surface tilled and graded. These areas should then be planted with an easily maintainable grass mixture that could be cut once or twice per year.<sup>18</sup>
- Second, re-establish the historic species of vegetation within each field. This would be initiated at a time when the park has the resources to maintain and manage these fields and would be accomplished by removing the existing vegetation, tilling the soil, and replanting the appropriate historic species of vegetation.

The field southeast of the main house should be used as a cultivated agriculture field and planted as it was historically with a combination of timothy and corn. A trace road leading to the farm barn foundation should be created between the two areas. It should be constructed of compacted soil tracks with grass growing in between. Timothy should be planted on one side of the path that led to the barn and corn on the other side. The south agricultural field should be replanted and maintained as a hay field.

### North Field

The north pasture, because it contains the current visitor parking area, cannot be fully re-established. Because this space will allow important visual connections between the other fields and the rest of the working farm, it does require some treatment. To improve those connections, the open character of the space should be recreated by instituting step one of the reclamation process described above. The woody vegetation in the southern portion of the north field should be cleared. The soil should be tilled and the same field mixture specified above should be planted. The north pasture should then be maintained in this fashion as long as the visitor parking area is retained. The space is not large enough and is too close to the new barn to allow it to be cultivated for agriculture as it was historically.

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<sup>18</sup> The specific grass species should be determined by a qualified expert. The species used should be easily maintainable, require cutting only once or twice per year, and have a rustic, rural character.

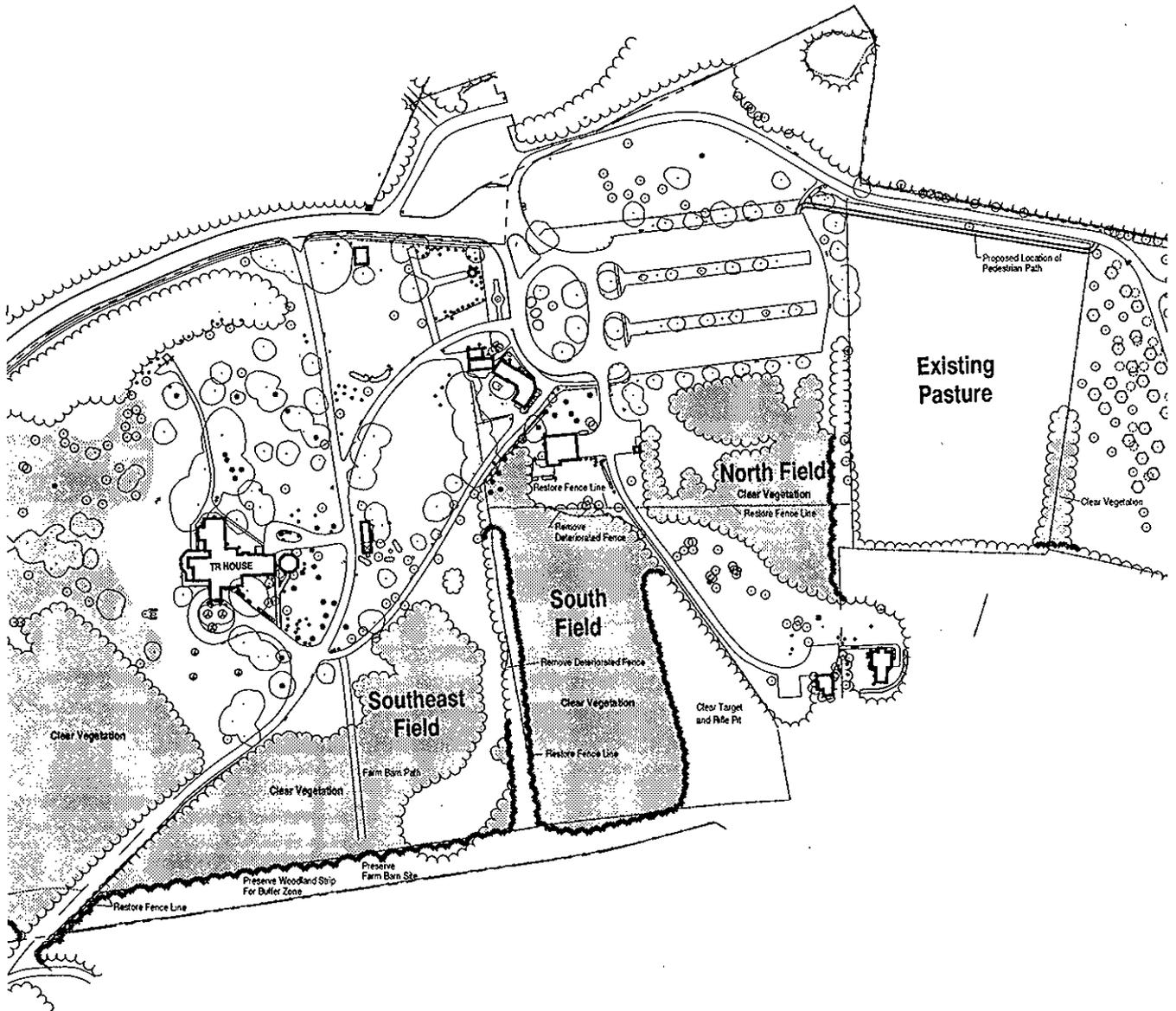


Figure 16: Re-establishment of historic agricultural fields (Uschold, 1998).

### Orchard

During the historic period the orchard consisted of approximately seventy fruit trees. The orchard was located at the east end of the working farm, adjacent to the woodlands which separated the farm and the beach. It appears that the orchard trees were planted in a north-south grid pattern. However, many trees have been lost or replaced since the period of significance and only a rather informal grid pattern remains today. In addition, the orchard has been overlaid with the construction of the Old Orchard complex. The house, its outbuildings, and access roads have been constructed within the boundaries of the orchard. Any orchard trees that did not interfere with its construction were left in place. Several of the original trees are extant and several lost trees have been replaced with young trees. In addition to the Old Orchard overlay, invasive vegetation is now encroaching upon the orchard's eastern boundary.

Although the existing buildings and roads of Old Orchard interfere with the orchard, it is still possible to understand the concept of the historic orchard. Additional steps should be taken to strengthen and preserve that concept. At the same time, these efforts will somewhat lessen the imposing presence of the Old Orchard complex within Sagamore Hill's rural landscape. The following three measures should be taken to best reinforce the orchard (fig. 17):

- First, invasive woodland growth encroaching upon the orchard's borders should be cleared, re-establishing the rectangular space in which the orchard existed historically. This should include all invasive vegetation extending beyond the fence line surrounding the orchard.
- Second, missing sections of the post and rail fence surrounding the orchard should be replaced and deteriorated sections repaired.
- Third, the orchard should be replanted to re-establish the historic grid pattern. This will require preserving some existing trees, removing certain existing trees, and re-planting several lost trees. Due to the existence of Old Orchard, not all of the orchard trees can be replaced. However, enough of the trees can be replaced to recapture the overall extent and original concept of the orchard.

Preserved trees, removed trees, and replacement trees are specified on Figure 17. The replacement trees should be planted as specified within the historic grid pattern. The new trees should be compatible in character with the existing historic trees and have a singular trunk and distinct overhead canopy (see SAHI PMP). The important aspect of the new trees is visual compatibility with the existing historic trees (in form and growth pattern). Fruit production is not necessary and, in fact, will cause additional maintenance for the park staff. Disease resistant varieties would be appropriate. Again, the importance of the replacement trees is to restore the overall appearance of the orchard, individual trees and fruit production are less important. As designated on Figure 17, sixteen existing trees should be preserved, twenty-six existing trees should be removed, and thirty-seven new trees should be planted.

The following list designates the appropriate treatment for each existing tree within the orchard. The tree numbers correspond to numbers assigned within the *Historic Plant Inventory* (1995).

Existing Orchard Trees to be Preserved	
6-1-1	6-1-22
6-1-3	6-1-24
6-1-5	6-1-25
6-1-7	6-1-26
6-1-9	6-1-28
6-1-13	6-1-51
6-1-16	6-1-53
6-1-21	6-1-54

Existing Orchard Trees to be Removed	
6-1-2	6-1-29
6-1-4	6-1-39
6-1-8	6-1-40
6-1-10	6-1-41
6-1-11	6-1-42
6-1-12	6-1-43
6-1-14	6-1-45
6-1-15	6-1-46
6-1-17	6-1-48
6-1-19	6-1-49
6-1-20	6-1-50
6-1-23	6-1-55
6-1-27	6-1-56

The new trees should be planted in alignment with the existing trees that will be preserved and should be spaced approximately thirty-five feet on center, to one another and to the existing trees.

*Treatment Recommendations  
and Implementation Plan*

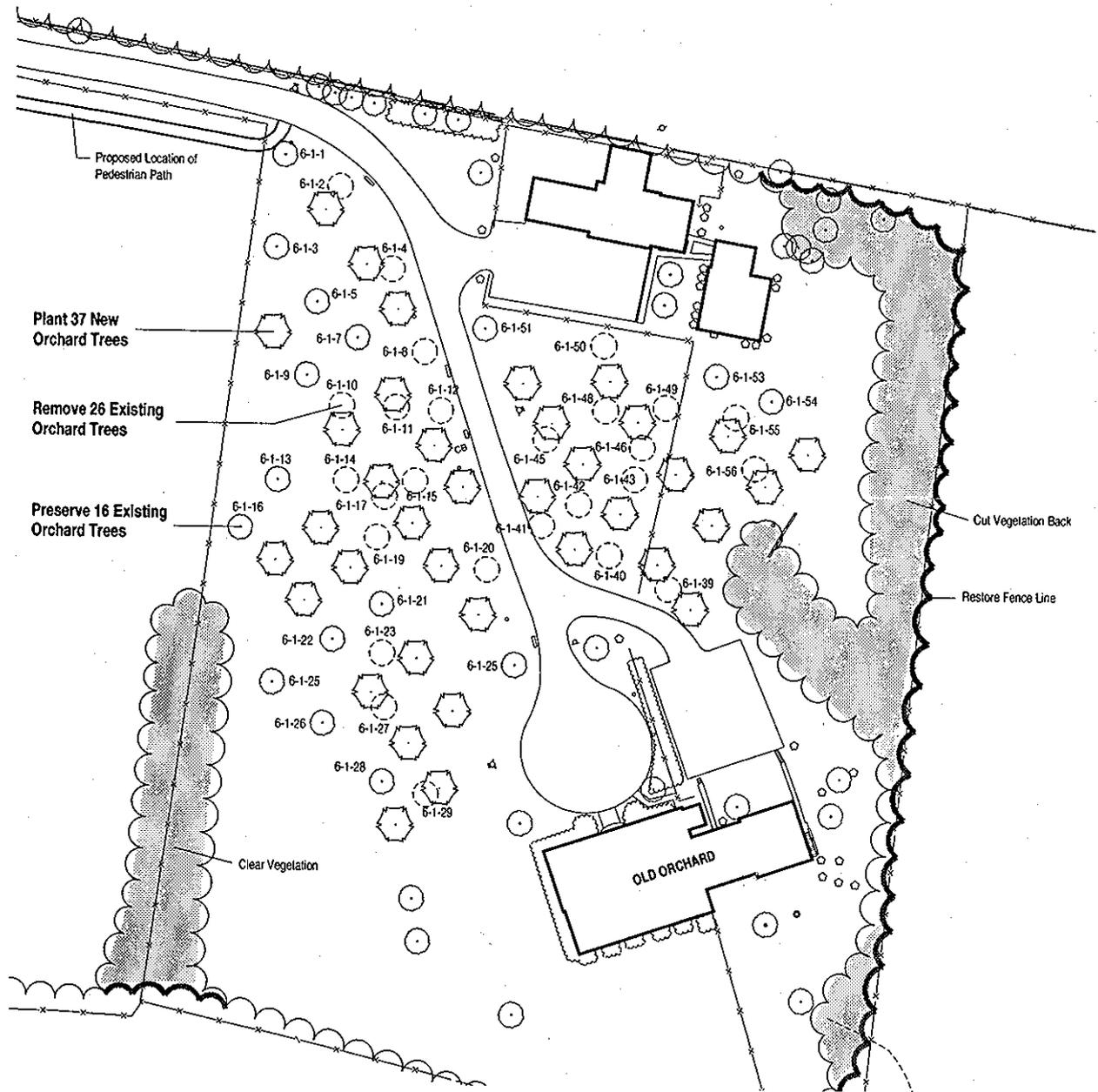


Figure 17: Orchard, planting plan (Uschold, 1997).

## **Circulation**

Several elements of the historic circulation system at Sagamore Hill are extant. They include the carriage road and circular drive, macadam road, garden path, woodland trail, pet cemetery path, and several farm roads. Some of these features have been altered since Roosevelt's tenure and others have been allowed to naturally deteriorate.

### Carriage Road and Macadam Road

During the historic period, Roosevelt constructed a winding carriage road leading to the main house. He later adjusted the original route and resurfaced this road. The first carriage road brought visitors through a winding entry to a point where an impressive view of the main house was obtained. Due to the sharp curves at the lower portion of the carriage road, its path was rerouted in 1911. The new route of the lower portion of the road was incorporated into the existing upper portion of the original carriage road and had a more direct approach to the main house. Referred to as the macadam road, this new route also provided views of the house for those approaching.

Since the construction of the macadam road in 1911, the lower portion of the carriage road has not been in use and has been allowed to deteriorate. Recently it has undergone stabilization efforts to clear some of the invasive vegetation growth. The remaining vegetation within the carriage road should be removed, including all stumps (refer to SAHI PMP). The road should then be kept clear of any new vegetation. The surface of the road, currently wood mulch, should be maintained with a compacted soil or gravel surface material (fig. 8). Treatment of the retaining wall associated with the carriage road is discussed in the "Structures" section of this document.

The macadam road, also no longer in use, has also been allowed to deteriorate. Vegetation along its edges is overhanging the road and should be cut back. The road itself should be analyzed for possible stabilization needs. Its surface, currently asphalt, should be maintained as such (fig. 9). Treatment of the retaining wall and drainage gutter associated with the macadam road is discussed in the "Structures" section of this document.

### Service Road

Previous to the construction of Sagamore Hill Road (currently the main access to the site), Roosevelt's property had a service access road along the northwest boundary of the property. This road was in the approximate location of the current Sagamore Hill Road. Referred to as the "service road," it accessed the stable and lodge, garden, agricultural fields, and orchard, separating service needs from the property's front entrance (which passed adjacent to the main house). The original route of the service road behind the pet cemetery can be seen by the existing landform and vegetation (fig. 18).

As a character-defining feature of Sagamore Hill's historic period, the service road should be preserved. While restoring the entire service road is not possible due to the existence of Sagamore Hill Road, the extant features of the road such as the large deciduous trees lining its west end and extant topographic form do allow for stabilization efforts that will retain the remnants of the path and aid in the interpretation of the site as a whole. Invasive vegetation growing in the path of the road should be cleared (see SAHI PMP). The path should be kept clear of new invasive vegetation and maintained as a path through the wooded area.



*Figure 18: Historic service road from west, 1997 (Uschold, OCLP).*



*Figure 19: Access to Old Orchard, 1997 (Uschold, OCLP).*

### Pedestrian Access to Old Orchard

The main house of Old Orchard currently serves as an interpretative museum for the park and therefore visitor access is extremely important. Visitors gain access to Old Orchard by walking along the road from the parking lot. While traffic on this road is limited to park and staff vehicles, this situation is not the best solution in terms of visitor safety (fig. 19). A designated pedestrian path should be added to provide access to Old Orchard. The path must satisfy safety issues but at the same time it should not detract from Sagamore Hill's historic character.

The least intrusive solution would be to construct a path within the existing pasture, parallel to the road, but on the pasture side of the fence. A break in the fence would be necessary at each end of the pasture and could be accommodated by removing one section of the fence at either end of the path. The path could be constructed in one of the three following ways (fig. 4):

- The preferred option is to construct a crushed stone path. A crushed stone surface could accommodate universal access while minimizing adverse impacts to the landscape.
- An asphalt path, while probably the most stable and easily maintained surface, would be the most intrusive to the site's historic character.
- The least intrusive surface would be a simple grass path with a lower mowing height than the surrounding pasture. A strip could be cut at 1" height with the surrounding field and lawns cut higher, which would direct pedestrians along the route to Old Orchard. While this option would provide a circulation route to Old Orchard, it would not serve universal access needs and also would be difficult to maintain, particularly in inclement weather.

### **Views**

During the historic period many scenic views existed, both within the site and of the surrounding landscape. They included views from the main house across the farm, views of the house from the carriage road, and various views from Sagamore Hill to the water bodies surrounding Cove Neck. All of these views have changed substantially or have been lost altogether due to woodland growth surrounding the property.

Views over the farm from the main house, also lost due to on-site woodland growth, will be restored through steps outlined in the "Vegetation" section of this document. These views are currently blocked by the growth of various non-historic hedgerows, woodlands, and ornamental plantings installed during the TRA stewardship. After the views are restored (through the steps outlined in the "Vegetation" section) vegetation must be managed to preserve the restored views.

Historically, the most prominent views on the site were those of the main house from the carriage road across the west lawn and that from the veranda of the main house looking back out over the west lawn. The view from the carriage road to the main house has changed drastically. Once the initial view or image of Sagamore Hill for anyone approaching, it is now inhibited by vegetation growth (fig. 20). The view should be restored by clearing invasive vegetation on the west lawn and removing invasive woodland growth at the base of the carriage road. This clearing is specifically detailed in the "Vegetation" section of this document as treatment for the west lawn. No additional vegetative growth or future development should be allowed to block this view.



*Figure 20: View of main house from carriage road, 1997 (Uschold, OCLP).*

The views from the house to the surrounding water bodies also have become blocked by woodland growth. However, the woodland blocking these views is mostly off-site and is out of park control. The woodland growth is due to the surrounding area, once agricultural land, becoming developed as sparsely populated residential land. No longer farmed, the open space not maintained as lawn has been allowed to become wooded and other areas may have been intentionally planted.

### **Natural Features**

Several natural water features existed on the property during the period of significance. They included Woodpile Pond, the Lower Lake, Eel Creek, and Cold Spring Harbor beach. While all of these are extant, Woodpile Pond is the only feature requiring attention. The other three water features should be protected from development but do not, at this time, require any physical treatment.

Woodpile Pond is located in what was the northwest corner of the historic garden. While the exact condition of the pond during the historic period has not been documented, the pond today is experiencing the damaging effects of storm-water run-off from surrounding sources as well as the encroachment of invasive vegetation. Specifically, Woodpile Pond currently is experiencing deterioration from silting and run-off from the park's visitor parking area and potentially from the neighboring property on the park's northwest boundary. As a character-defining feature the pond should be protected and preserved from natural deterioration and damage from human influences (fig. 21).<sup>19</sup>



*Figure 21: Woodpile Pond, 1997 (Uschold, OCLP).*

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<sup>19</sup>

Kevin Mendik, Environmental Protection Specialist, Boston Support Office, National Park Service, conducted a site reconnaissance survey (May 15, 1997) at Sagamore Hill NHS which focused on the effect of the proposed treatment recommendations on the natural resources of the site. A preliminary assessment of Woodpile Pond suggests that it is a vernal pool, and appears to be the recipient of the storm-water run-off from the park's visitor parking area as well as potential run-off from the property directly adjacent to the pond.

### **Small-Scale Features**

Several small-scale features on the site contribute to its historic character. These include the post and rail fences, pet cemetery arbor, pet cemetery stone, Sagamore Hill rock, the rocks along the circular drive, and the white marble bench. Some of these features have been moved from their historic locations while others have been altered. As important character-defining elements of the historic landscape they require treatment.

Where it is not practical or possible to place these features in their historic locations, they will be preserved in their current locations. Other small-scale features, such as the flagpole, Quentin Roosevelt Memorial and Memorial Rose Garden detract from the site's historic character.

### **Post and Rail Fences**

Post and rail fences defined edges of many of the agricultural fields during the historic period. Today many of the fence lines are extant but some are severely deteriorated and some sections have been completely lost. The deteriorated sections of fence should be repaired and the lost sections replaced. In order to replace the deteriorated sections, the condition of all of the existing post and rail fences needs to be assessed to determine which sections need replacement.

Four sections of post and rail fence have been lost completely and should be replaced. They include the fence between the southeast field and the south field, the fence between the south field and the north pasture, and two sections between the orchard and the woodland. The design of the new fence should mimic the existing post and rail fences (fig. 22) and be located as indicated on Figure 4.



*Figure 22: Existing post and rail fence (Uschold, 1997).*

### Pet Cemetery Arbor

During the historic period, an arched arbor with a bench under either side stood in the pet cemetery (fig. 13). The non-historic existing arbor is a rectangular u-shape with three benches underneath it. While the location of the extant arbor is historically accurate, its construction and character are quite different (fig. 23). When the arbor and benches need to be replaced, they should be replaced in the same location with a more historically accurate arbor and benches. The replacement arbor should be constructed similar to the existing arbor but have a circular form rather than rectangular. Benches should stand along both sides of the arbor but not the back edge (fig. 24).

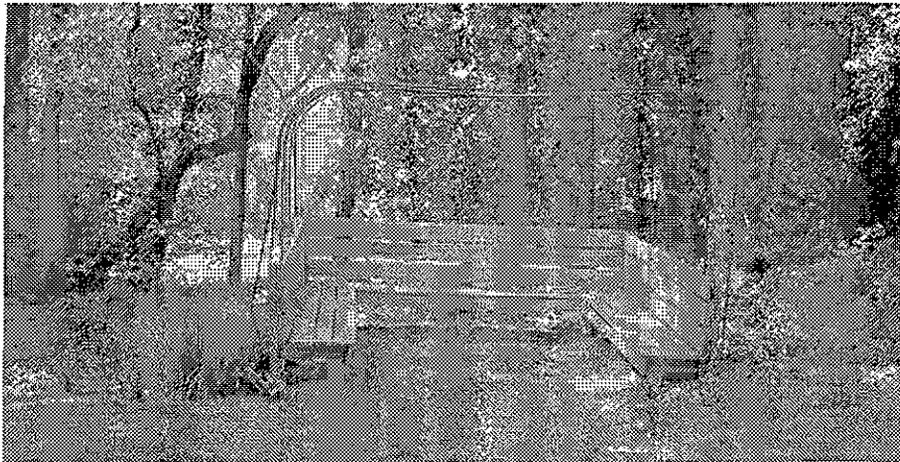


Figure 23: Existing pet cemetery arbor, 1997 (Uschold, OCLP).

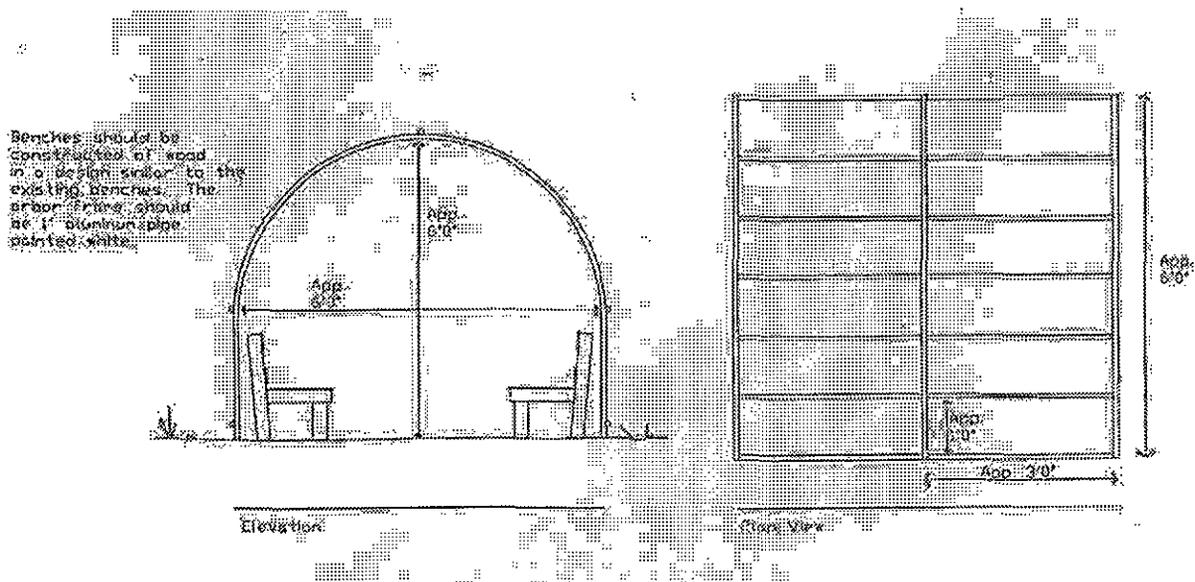


Figure 24: Detail of replacement pet cemetery arbor (Uschold, 1997).

#### Pet Cemetery Rock, Sagamore Hill Rock, Circular Drive Rocks, and White Bench

During Roosevelt's tenure, three stone features and a white marble bench existed on the property. The stone features included a pet cemetery grave stone, a stone with "Sagamore Hill" carved into it, and several white painted rocks lining the circular drive at the entrance to the house.

- The pet cemetery rock engraved with the names of the family pets remains in its original location in the pet cemetery, north of the house. The stone should be preserved in its present location.
- The Sagamore Hill rock is extant and located along Sagamore Hill Road in view of approaching visitors. Although the original location of this stone is undocumented as of yet, it was not located in its current location because Sagamore Hill Road did not exist. Most likely, it was located along the original carriage road and returning it there would not be a viable option today. Unless a more appropriate location is determined, the stone should be preserved in its current location.
- The border of white painted rocks lining the edges of the circular drive is no longer extant. The rocks should be replaced. The rocks should be mostly round with smooth edges and approximately eight to twelve inches in diameter. They should be spaced approximately five feet on-center along both sides of the circular portion of the entry drive. The chain and post fence along the northeast portion of the drive should be removed.
- Also from the historic period is a white marble bench, a gift to Roosevelt. The bench was located in various places around the main house during the period of significance. The bench should be preserved and it should remain located in the vicinity of the main house. However, the current location of the bench will interfere with vine replacement on the main house. When necessary, the bench will need to be moved. An appropriate location would be underneath one of the larger shade trees on the lawn near the house.

#### Flagpole and Quentin Roosevelt Memorial

A flagpole installed in 1953 is located in the lawn on the west side of the main house. At the base of the flagpole is a memorial to Quentin Roosevelt, placed there in 1956. The memorial consists of a stone plaque with a post and chain fence around it. These elements, which did not exist during the historic period, are located on the periphery of one of the most significant views on the property, the view from the carriage road to the main house. They are also on the outskirts of the area where the public stood to hear Roosevelt's speeches as he stood on the veranda of the main house. Their existence also adds a manicured and formal element to a lawn that was informal in nature.

The flagpole and memorial should be preserved in their current location. While they do not contribute to the historic character of Sagamore Hill, they are an important symbol representing the history of the Roosevelt family and commemoration of Quentin Roosevelt's service to his country. To minimize their impact on the historic character of the property, no further ornamentation should be added to the location and the post and chain fence surrounding them should be removed.

If viable at some future date, the flagpole and memorial could be relocated to a location that is associated with visitor orientation and does not conflict with the historic character of Sagamore Hill, such as adjacent to the visitor orientation center or near the memorial rose garden.

## ADDITIONAL TREATMENT RECOMMENDATIONS

In addition to the preservation efforts and physical treatment actions directed at specific features of the landscape, many other recommendations, mostly addressing long-term planning issues, should be kept in mind as part of the overall rehabilitation of Sagamore Hill's landscape. These items, identified by the park staff during the completion of the *Cultural Landscape Report for Sagamore Hill NHS, Volume 1*, include large-scale development projects, further research projects, and general management issues that should be addressed both during and after this plan is implemented.

### Boundary Survey

An accurate legal boundary survey of Sagamore Hill NHS does not exist. A boundary survey should be completed and added to the existing conditions maps created as part of the *Cultural Landscape Report for Sagamore Hill NHS, Volume 1* (1995).

The existing conditions maps were created on a computer-aided drafting system based on aerial photographs. Golden Aerial Surveys, Inc. created the original map files and should be contacted for the ground control information necessary to append survey information to maps. Upon completion of the ground control survey, Golden Aerial Surveys, Inc. could add the information to the existing (1992-93) digital data.

### Visitor Center

The current visitor center for the park is housed in a 1956 structure built during the TRA stewardship. While the current structure is adequate as a temporary facility, it does not fully meet the park's needs. It has insufficient space and detracts from Sagamore Hill's historic character (fig. 25). The other structures currently housing park facilities are scattered across the park and in most cases located in historic structures. None of the existing structures could adequately house a visitor center for the park. Securing a more suitable and permanent structure is a priority. The new facility should be of sufficient size to accommodate service needs and interpretive programs. It should also be compatible with the historic character of the site.



Figure 25: Visitor orientation center, 1997 (Uschold, OCLP).

One possible solution for accommodating a visitor orientation center would be to construct a new building on the site of the stable and lodge, which burned in 1947 (fig. 26). The new building would mimic the mass and scale of the historic stable and lodge but be an identifiably new construction. If necessary, depending upon an archeological assessment of the existing stable and lodge foundation, the new building could be slightly larger than the original, so that it would not disturb the historic foundation.

Reconstruction of the stable and lodge was first called for in the 1963 Master Plan and then again in the 1987 General Management Plan Scoping Meeting and is supported by the current park management.<sup>20</sup> In the scoping meeting its reconstruction was specified for use as a visitor orientation center.



*Figure 26: Stable and lodge, 1905 (SAHINHS, no. 1112, Box 6).*

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<sup>20</sup>

U.S. Department of the Interior, National Park Service, *Master Plan, Sagamore Hill National Historic Site*. 1963, p6.  
General Management Plan Scoping Meeting Report, Sagamore Hill National Historic Site. Oyster Bay, 1987.

NPS policy allows for new construction within cultural zones "only if (1) existing structures and improvements do not meet essential management needs, and (2) new construction is designed and sited to preserve the integrity and character of the area." NPS policy also states that "Unless associated with an approved restoration or reconstruction, new construction will harmonize with historic features in scale, texture, and continuity but will not imitate them."<sup>21</sup> The new construction proposed for the new visitor center meets all of these guidelines. The existing structures do not meet essential management needs and the proposed new construction will not in any way detract from the integrity of historic character of the site. Finally, the new construction is approved in the park's current GMP (1963 Master Plan) as part of an overall restoration of the site.

Construction of a new building mimicking the stable and lodge is the most appropriate course of action for several reasons. Most important, the new building would greatly assist interpretation of the historic character of the site because it was the major utilitarian structure of the working farm. Constructing the new building in its image would allow visitors to get a much better feeling of the site's character during the Roosevelt tenure. In addition, the historic location of the stable and lodge is directly in the current visitor path, between the entry road and the main house and adjacent to the parking area. Also, the structure is sufficiently large to accommodate the square footage required for a visitor center and also allow room for additional park needs.

Before any treatment to the existing stable and lodge foundation is initiated a complete archeological survey of the area should be completed.<sup>22</sup> In addition, written and graphic documentation of the existing foundation should be completed before it undergoes any treatment. Once the visitor center is relocated, the existing visitor center structure should be removed. Complete written and graphic documentation of the existing visitor center should be completed before its removal. The area occupied by the current visitor center should then be rejoined as part of the southeast agricultural field.

Part of the interpretive program at the new visitor center should include interpretation of the original stable and lodge building which compares it to the new building and addresses the historic function of the stable and lodge, and a clear explanation of the construction and preservation process involved in the new building's design and construction.

### **Park Operational Facilities**

While the use of historic structures for park facilities is condoned by NPS management policy, it should not interfere with management goals, such as preservation and interpretation. In the case of Sagamore Hill, some of the functional operations housed in historic structures could be better served in more suitable structures. In

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<sup>21</sup> U.S. Department of the Interior, National Park Service, *Management Policies*. 1988, Ch. 5, p8.

<sup>22</sup> If an archeological assessment determines that the existing foundation should not be disturbed, the new structure could be constructed slightly larger than the original, to preserve the original foundation undisturbed. However, the new building should still have mass and scale similar to the original stable and lodge.

addition, some of the historic structures being used as park facilities are needed for interpretive purposes. However, lack of other suitable buildings on the site requires the park to continue using some of its historic structures for contemporary park needs.

Currently park administrative, curatorial, and maintenance facilities are housed in various locations on the site. The main house contains curatorial functions, the gray cottage and new barn are staff housing, the Old Orchard garage is a maintenance facility, the Old Orchard foremen's cottage is staff housing, and the Old Orchard main house contains administrative offices, curatorial storage, staff housing, and an interpretive museum.

It should be the goal of park management to remove park operational activities from certain historic structures including the main house and new barn, at the very least. In the mean time, while historic structures continue to serve operational purposes, the most desirable method would be to retain a use similar to the historic use. For example, the following are potential goals the park should consider:

- Staff housing should be removed from the new barn and it could be used as a maintenance facility. Use as a maintenance facility would allow the park to better retain the historic character and use of the barn. Presently, the new barn has visible modifications to accommodate its use as a residence. These modifications could be reversed if the barn was used as a maintenance facility. In addition, when the agricultural fields surrounding the barn are restored, the barn will become much more visible to visitors and will also be less desirable as a staff housing option.
- The gray cottage, currently used as staff housing, could retain that use because it is consistent with its historical use as the coachman and valet's cottage. The exterior could undergo restoration efforts and views to the cottage from the adjacent agricultural fields could be cleared as they were historically.

### **Old Orchard**

Since its construction in 1937, Old Orchard has been a major feature of Sagamore Hill's landscape. The enabling legislation authorizing Sagamore Hill NHS states that the park was established to preserve historic resources associated with Theodore Roosevelt's life.<sup>23</sup> The Old Orchard complex, which includes the main house, garage, and foreman's cottage, was constructed after Roosevelt's death and therefore has no historical significance as related to the park's enabling legislation. Furthermore, the List of Classified Structures and the National Register of Historic Places have concurred that the Old Orchard complex is not by itself eligible for inclusion on the National Register. It is therefore recommended that, in lieu of other possibilities, the structures of the Old Orchard complex be used for park operational facilities as opposed to using the structures from the historic period. While the Old Orchard structures do not contribute to the historic character of the site, their presence is a better alternative than constructing completely new contemporary structures to serve these needs.

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<sup>23</sup> US Department of the Interior, National Park Service, *Statement for Management, Sagamore Hill NHS*. Oyster Bay, 1980, p1.

Clearly, Old Orchard does not have historical significance relating to the park's enabling legislation or in relation to its National Register significance. However, although the complex is a later overlay onto the historic setting, its buildings serve a critical function in providing space for administrative and maintenance operations and they should be retained as long as necessary.

#### **Parking Lot and Flower and Vegetable Garden**

The visitor parking lot, although it suits current visitor needs, greatly detracts from the historic character of the site. The existing parking lot is located on the site of the historic flower and vegetable garden. While a visitor parking lot for the site is necessary, accommodation for parking should be made in a sensitive manner. The implications of constructing a new, more sensitive parking lot are extensive but should be considered in long-term planning for the park.

Relocating the parking lot should be considered within a comprehensive, or grand scheme, for the entire park. Factors involved in relocating the parking area include, but are not limited to, the following:

- Current location of visitor facilities (including the first contact point for visitors, visitor center, Old Orchard museum etc.).
- Location of proposed or future visitor facilities (reconstructed stable and lodge).
- Potential locations that could accommodate the parking area (size of necessary lot, accessibility of the parking area to other areas of the site).
- Adjacent land use for potential locations of a relocated parking area (residential neighbors).
- Potential acquisition of adjacent land for the relocation of the parking lot.

At such time when it may be possible, parking facilities for the site should be relocated and the existing parking lot should be removed. Without the park acquiring additional property, one potential location for a new parking lot could be within the parcel of land north of Sagamore Hill Road. This space could, conceptually, accommodate a parking area for 100-125 cars, fulfilling the current parking needs for the site. Neighboring land use issues and topography of this parcel are issues that need to be studied for this location. Figure 27 illustrates a conceptual plan for this option.

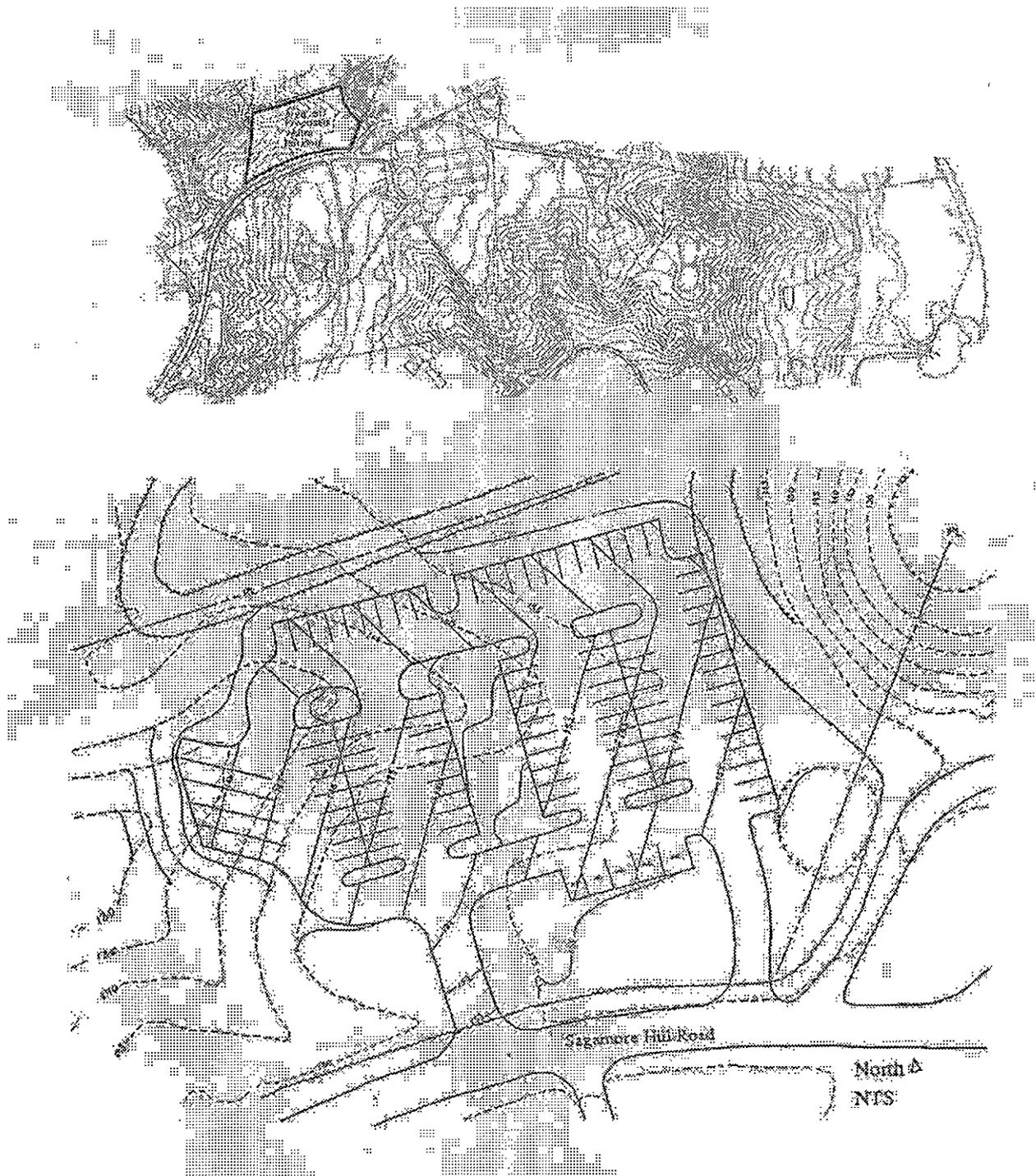
At such time that the parking area is relocated, restoration of the garden should be explored. The flower and vegetable garden was a significant feature in the Roosevelt family life and of Sagamore Hill's landscape. It occupied a prominent location virtually in the center of the property. Today, the garden no longer exists and a portion of the area is covered by the visitor parking. The garden that does exist on the site, at the west end of the original garden, is historically inaccurate and much smaller than the original. The general layout and contents of the historic garden have been documented and are noted within the CLR V1.

Although further study would be required, recreating the flower and vegetable garden is possible. The major elements that defined the garden are clearly documented and many of the smaller elements within the garden are also known. Recreating the garden would require more in-depth study of the existing documentation to establish an actual construction and planting plan for the garden.

**Smith's Field**

The only portion of Sagamore Hill no longer contiguous with the remainder of the farm is Smith's Field. Although this portion of the property was always somewhat removed from the whole of the farm, being located on the north side of the service road, historically it was an integral part of the property. Although not a priority, the possibility of acquiring this parcel should be kept in mind. If the parcel should become available, the park should make the attempt to acquire it in fee, or at least, obtain a conservation easement on the parcel to protect it from development.

Smith's field was also the location of "the nest," Edith Roosevelt's small gazebo. The nest was a very private space with views of Long Island Sound and Oyster Bay Harbor. Documentation of the nest exists and it could be replaced if that property were ever acquired by the NPS.



*Figure 27: Conceptual alternative for proposed parking area (Bellavia, 1993).*

## COMPLIANCE ISSUES

The National Park Service will comply with all applicable laws, regulations and executive orders, including those listed here, prior to implementing the recommendations outlined in this Treatment Recommendations and Implementation Plan for Sagamore Hill NHS.

### **National Environmental Policy Act (NEPA) Compliance**

The National Environmental Policy Act (NEPA) of 1969, as amended, states that the federal government must make it possible for the nation to "preserve important historic, cultural, and natural aspects of our national heritage." In accordance with this act, all federal agencies must prepare an environmental impact statement (EIS) for proposed actions and permits that might effect the environment. In the case of the *Treatment Recommendations and Implementation Plan* for Sagamore Hill a memorandum addressing the issues normally covered by an EIS may be required in order to undertake some of the proposed actions. The National Park Service will prepare a record of decision and make it available to interested parties to complete the NEPA process.

### **Cultural Resource Compliance**

Because Sagamore Hill National Historic Site is listed on the National Register of Historic Places and owned by the federal government, any proposed changes to the property must comply with Section 106 and Section 110 of the National Historic Preservation Act of 1966, as amended, and the implementing regulations for Section 106.

Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470, et. seq), requires a federal agency head with jurisdiction over a federal, federally assisted or federally licensed undertaking to take into account the effects of the agencies undertakings on properties included in or eligible for the National Register of Historic Places, and, prior to approval of an undertaking, to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

The Council seeks, through the Section 106 process, to take into account historic preservation concerns with the needs of agency programs. It is designed to identify potential conflicts between the two and help resolve such conflicts in the public interest. The Council encourages consultation among the Agency Official, the State Historic Preservation Officer, and other interested persons during the early stages of planning. The Council regards the consultation process as an effective means for reconciling the interests of consulting parties.

The National Park Service completes a 106 form (Assessment of Actions Having an Effect on Cultural Resources) or otherwise documents all undertakings prior to implementing any proposed actions. All ground-disturbing activities are preceded by an archeological evaluation to determine the level of archeological investigation required before any such activities can begin. Should any resources be identified, the SHPO and the National Park Service evaluate their potential for cultural or historical significance; if necessary, appropriate measures are undertaken to preserve them. Archeological testing is carried out prior to ground-breaking activities.

Within the Secretary of the Interior's Standards for the Treatment of Historic Properties, the standards for rehabilitation state: "archeological resources affected by a project will be protected and preserved in place.

If such resources must be disturbed, mitigation measures will be undertaken."<sup>24</sup>

During treatment implementation, measures should be taken to minimize and avoid, whenever possible, damage to historic resources and vegetation in particular. Construction equipment should be kept away from historic vegetation, minimizing trunk and branch scarring and compaction damage to roots (refer to SAHI PMP).

### **Natural Resource Compliance**

The following regulations are intended to protect natural resources on all federally-owned properties:

Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations. The National Park Service will work with the State of New York to ensure that all site activities meet the requirements of the state air quality implementation plan. Executive Order 11988 ("Floodplain Management") requires that all federal agencies avoid construction within the 100-year floodplain unless no other practicable alternative exists. However, no features effected by the actions recommended within this document are located within the 100-year floodplain. Executive Order 119900 ("Protection of Wetlands") requires that all federal agencies avoid construction within wetlands unless no other practicable alternative exists. Preliminary assessment of the site suggests that no wetlands will be effected by the proposed treatment.<sup>25</sup>

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) requires all federal agencies to consult with the United States Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species of critical habitat.

During the design phase of project implementation, the National Park Service will comply with all pertinent state and local permitting procedures, such as the New York Wetlands Protection Act.

### **Natural Resource Issues at Sagamore Hill National Historic Site**

Several of the treatment recommendations within this plan will have an impact on the park's natural resources. In an effort to mitigate any of those potentially negative impacts on the park's natural resources, Environmental Protection Specialist, Kevin Mendik, of the Boston Support Office, National Park Service, was asked to review the proposed actions and invited to conduct a site reconnaissance to survey the effected

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<sup>24</sup> U.S. Department of the Interior. *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Cultural Resource Stewardship and Partnerships, NPS, 1995, p118.

<sup>25</sup> Field Survey: Sagamore Hill NHS, May 15, 1997; K. Mendik, D. Uschold, I. Goldman. Kevin Mendik, Environmental Protection Specialist, BOST, NPS, conducted a site reconnaissance to determine a preliminary evaluation of the effects of this treatment plan on natural resources at the site.

areas. Kevin Mendik's review of the treatment recommendations existing conditions and proposed actions that could have an effect on specific resources. Verified by site reconnaissance the following actions were noted as potentially requiring mitigation efforts (see Appendix D for site reconnaissance field notes):

*Preservation of Woodpile Pond*

During the period of significance Woodpile Pond was located along the north boundary of the property within the flower and vegetable garden. The pond is extant but shows signs of deterioration. A study should be undertaken to determine the effects that storm-water run-off are having on the pond, particularly from the visitor parking area and potentially from the neighboring property.

*Clearing Woodland & Replanting Pastures*

During the period of significance five agricultural spaces existed on the property. Four of those spaces are currently within the boundaries of the park, while one, Smith's Field, remains outside the park, in private ownership. Of the four spaces within the park, one remains an open field, while the three others have been allowed to become woodland. It is recommended within this plan to return the three lost spaces to open field. They include the pasture southeast of the main house, the north pasture, and the south pasture.

Initial reconnaissance of these three areas and a review of the topography indicates that no wetlands exist within these areas. However, the U.S. Fish and Wildlife Service (USFWS) should be consulted to determine if any endangered species will be effected by these actions. It is the responsibility of the USFWS to determine if any endangered species are present.

*Woodland, Eel Creek, and Lower Lake*

The most significant natural resource on the site is the woodland near the beach which also contains the Lower Lake, a small water feature that existed during the period of significance. In addition, Eel Creek extends along the Cold Spring Harbor beach at the site's east boundary. The woodland, Lower Lake, beach, and Eel Creek will be unaffected by this treatment plan. However, it should be noted that these natural resources were present during the period of significance and should be protected from deterioration and future development.

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## Appendices

### Appendix A

#### Plant Preservation Inventory

#### Historic and Non-Historic Plants

As mentioned in the "Vegetation" section of the "Landscape Rehabilitation Tasks," many individual plants existed during the historic period on the lawn around the main house. The following list was compiled from the *Historic Plant Inventory, Sagamore Hill NHS* (OCLP, 1995) and specifies plants that either (1) date from Roosevelt's tenure, (2) may potentially date from Roosevelt's tenure and should be treated as historic until proven otherwise, or (3) are non-historic but do not detract from the historic scene. All of these trees should be preserved and replaced in-kind as needed.

This list concentrates on the vegetation within the core area surrounding the main house (plant identification numbers corresponding to those on the *Historic Plant Inventory*). Other significant plants may exist within other areas of the park, and before treatment of any other plant takes place, both the 1995 Historic Plant Inventory and the 1997 Preservation Maintenance Plan should be reviewed for pertinent information regarding each plant.

Plant Identification Number	Plant Name
1-1-23	White Pine
1-1-26	Japanese Maple
1-1-26.5	Japanese Maple
1-1-26.5a	Japanese Maple
1-1-27	Siberian Larch
1-1-27.5	Eastern Red Cedar
1-1-28	English Oak
1-1-28.5	Purple Beech
1-1-29	English Oak
1-1-37	European Beech
1-1-38	European Beech
1-1-44	Canadian Hemlock
1-1-44.5	Canadian Hemlock
1-1-48	White Pine

Plant Identification Number	Plant Name
1-1-75.5 (a?)	Sugar Maple
1-1-77	Canadian Hemlock
1-1-79	White Pine
1-1-87	Sugar Maple
1-1-89	Norway Maple
1-1-89.5	Norway Maple
1-1-94	Norway Maple
1-1-95	Sugar Maple
1-1-97	Austrian Pine
1-1-98	Sugar Maple
1-1-98.5	Black Cherry
1-1-99	Red Maple
1-1-100	Northern Catalpa
1-1-103	Sugar Maple

1-1-48.5	White Pine
1-1-49	White Pine
1-1-50	White Pine
1-1-51	Canadian Hemlock
1-1-52	Eastern Red Cedar
1-1-53	Canadian Hemlock
1-1-58	Canadian Hemlock
1-1-60	Canadian Hemlock
1-1-63	White Pine
1-1-65	European Beech
1-1-66	American Elm
1-1-67	American Beech
1-1-68	White Pine
1-1-69	White Pine
1-1-70	White Pine
1-1-71	White Pine
1-1-72	Sugar Maple
1-1-73	White Pine
1-1-75	Sugar Maple

1-1-104	Sugar Maple
1-1-104.5	Sugar Maple
1-1-105	Sugar Maple
1-1-105.5	Sugar Maple
1-1-107	Sugar Maple
1-1-111	White Oak
1-2-6	Columnar Yew
1-2-7	Columnar Yew
2-1-68	Flowering Dogwood
2-1-77	Sassafras
2-1-81	Copper Beech
3-1-23	White Pine
3-1-37	Apple
3-1-143	Norway Maple
3-1-144	Catalpa
3-1-147	Norway Maple
3-1-149	Norway Maple
4-1-1	White Oak
4-1-3	Crab Apple

## **Appendix B**

### **Trellis System for the Vines on the Main House**

As noted in the text of this report, replacing the vines on the house should be completed in a manner that will prevent damage to the structure. Preservation Tech Note: *Restoring Vine Coverage to Historic Buildings*, describes a trellis system implemented at the Frederick Law Olmsted NHS, in Brookline, Massachusetts.<sup>1</sup> That system could be adapted to serve the trellis needs at Sagamore Hill.

The following is a conceptual design plan and preliminary cost estimates for constructing a trellis system on the main house at Sagamore Hill using the method described in the Preservation Tech Note. Appendix B includes 1) cost estimates for a scoping project to design the system and plan for its implementation; 2) preliminary cost estimates (reflecting 1997 cost figures) for each of the three trellises; and 3) a conceptual design for the north room trellis to demonstrate the type of layout that could be used.

#### **Scoping Project**

**North Room Trellis**

**Porte-cochere Trellis**

**Library Window Trellis**

**Preservation Tech Note: Restoring Vine Coverage to Historic Buildings**

#### **Scoping Project**

To begin the project, a scoping visit to the site would be necessary. The conceptual design of each trellis would be finalized, the final costs and necessary materials outlined, and an implementation plan developed.

#### **Scoping Visit:**

2 day trip

Historical Landscape Architect & Wood Crafter/Carpenter

Travel/\$210.00

Salaries/\$500.00

**Total: \$710.00**

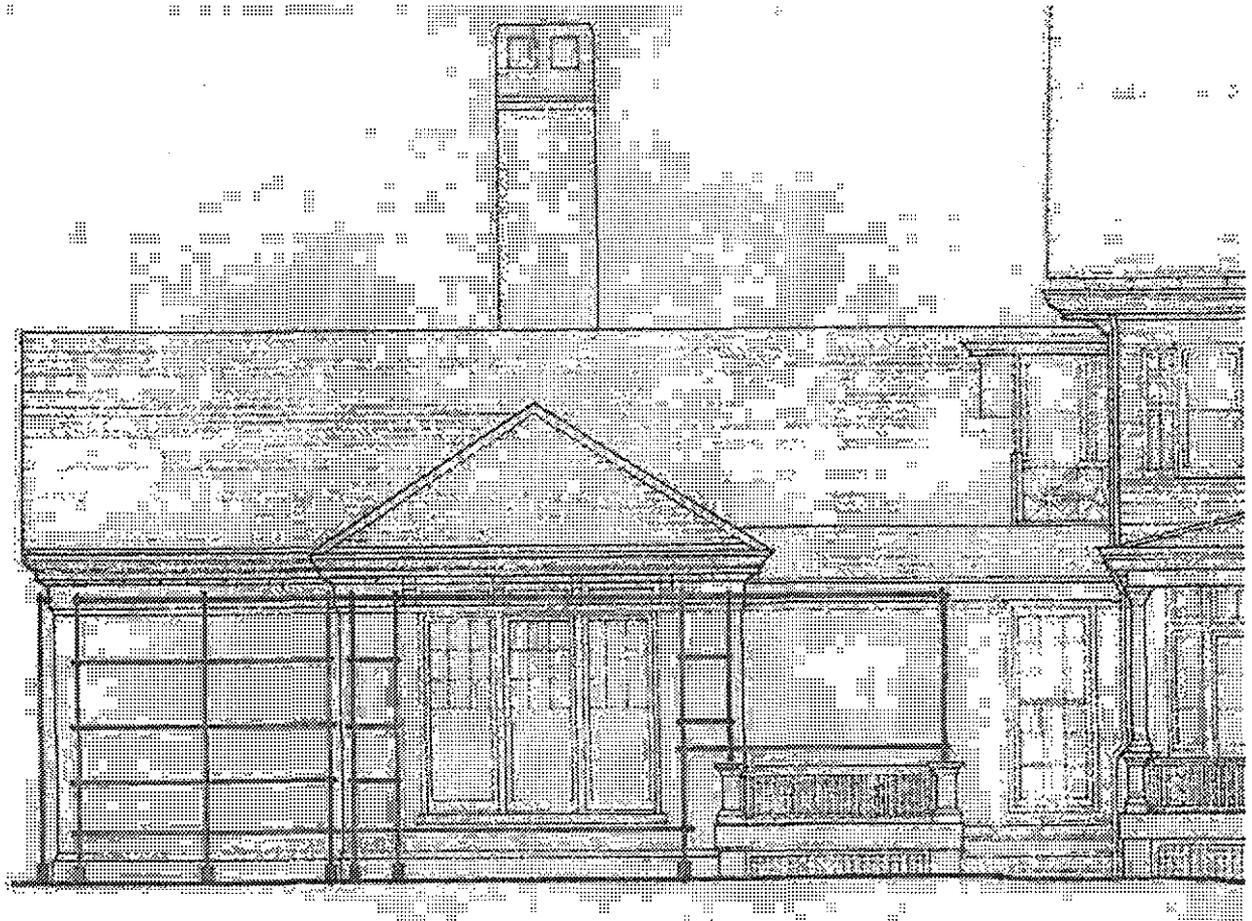
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<sup>1</sup>

Day, Karen E. Preservation Tech Note: Restoring Vine Coverage to Historic Buildings. U.S. Department of the Interior, National Park Service, Preservation Assistance Division, 1991. A copy of the Tech Note is included at the end of Appendix B.

## North Room Trellis Conceptual Design

The conceptual trellis design below is an example of a potential layout for a trellis that could be constructed on the north room at Sagamore Hill. The trellis would be constructed in a manner similar to the design noted on the Preservation Tech Note: *Restoring Vine Coverage to Historic Buildings*. As noted in the Tech Note, the materials used to construct the trellis will be virtually non-intrusive to the visual character of the house. A finalized design of the trellis would be developed by the wood crafter/carpenter on the scoping trip.



*Conceptual Design for North Room Trellis (Uschold, 1998).*

**North Room Trellis  
Implementation Plan and Cost Estimate**

Design/Planning and Material Purchase:  
.5 pay period each  
Historical Landscape Architect & Wood Crafter/Carpenter  
Salaries/\$1,100.00

Installation of Trellis on House:  
4 days  
2 Wood Crafters/Carpenters  
Travel 2 people/\$1,100.00  
Salaries/\$2,000.

Materials for Trellis Construction:  
\$1,500.00

Project Supervision During Construction:  
1 day trip  
Historical Landscape Architect  
Travel/\$30.00  
Salary/\$125.00

**Total Costs for North Room Trellis:**  
Personnel: \$3,225.00  
Travel: 1,130.00  
Materials: 1,500.00  
**TOTAL PROJECT ESTIMATE: \$5,855.00**

**Porte-cochere Trellis  
Implementation Plan and Cost Estimate**

**Design/Planning and Material Purchase:**

.5 pay period each

Historical Landscape Architect & Wood Crafter/Carpenter

Salaries/\$1,100.00

**Installation of Trellis on House:**

2 days

2 Wood Crafters/Carpenters

Travel 2 people/\$550.00

Salaries/\$1,000.00

**Materials for Trellis Construction:**

\$800.00

**Project Supervision During Construction:**

1 day trip

Historical Landscape Architect

Travel/\$30.00

Salary/\$125.00

**Total Costs for Project:**

Personnel: \$2,225.00

Travel: \$580.00

Materials: \$800.00

**TOTAL PROJECT ESTIMATE: \$3,605.00**

**Library Window  
Implementation Plan and Cost Estimate**

Design/Planning and Material Purchase:  
.5 pay period each  
Historical Landscape Architect & Wood Crafter/Carpenter  
Salaries/\$1,100.00

Installation of Trellis on House:  
2 days  
2 Wood Crafters/Carpenters  
Travel 2 people/\$550.00  
Salaries/\$1,000.00

Materials for Trellis Construction:  
\$600.00

Project Supervision During Construction:  
1 day trip  
Historical Landscape Architect  
Travel/\$30.00  
Salary/\$125.00

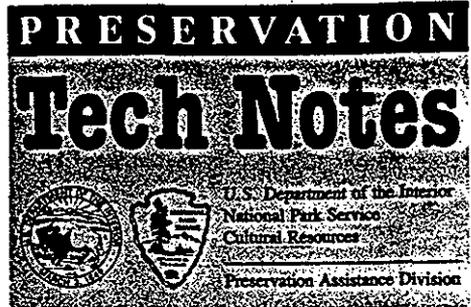
**Total Costs for Project:**

Personnel: \$2,225.00

Travel: \$580.00

Materials: \$600.00

**TOTAL PROJECT ESTIMATE: \$3,405.00**



## SITE

### NUMBER 1

## Restoring Vine Coverage to Historic Buildings

Karen E. Day  
Preservation Assistance Division  
National Park Service

### FAIRSTED Frederick Law Olmsted National Historic Site Brookline, Massachusetts

In 1883, Frederick Law Olmsted Sr., noted landscape architect and planner, established his home and office in Brookline, Massachusetts. Olmsted's improvements to the two-acre site transformed the farm into a picturesque suburban estate, which he called Fairsted. Olmsted employed elements from the picturesque and pastoral styles, including an abundance of climbing vegetation on stone walls, trees, and buildings.

To help unify the architecture and the landscape Olmsted planted two twining vines, *Wisteria sinensis* (Chinese Wisteria) and *Actinidia arguta* (Bower Actinidia), which would cover the house. The vines masked the angularities of the building, and thus accomplished Olmsted's intent of obscuring the distinction between the natural and the manmade. The vines climbed profusely on the south side of the house, twining around waterspouts, window boxes, and shutters. Olmsted installed strapping to provide vine support, that ran vertically and horizontally along the facade.

The vines that covered Fairsted are an important visual and historic feature, reflecting Olmsted's interpretation of the ideal garden suburb and his landscape design principles. Unfortunately, the vines eventually contributed to the dete-

rioration of the clapboard house, necessitating that some alternative method be found to protect the building facade from future damage and while still supporting the historic plant material.

### Problem

Vines can damage historic clapboard or masonry buildings in a number of ways. Roots growing near buildings retain moisture and can put pressure on foundations, displacing materials and providing entry points for water, insects, and rodents. The primary damage caused by all vines is due to moisture. The shade created by extensive vegetation cover prevents the sun from drying the covered wall, and also reduces the drying effect from air circulation. Moisture from condensation, rain water, and plant transpiration is thus slow to evaporate and creates an environment conducive to paint failure, wood rot, and deterioration of soft masonry. The continuous presence of moisture on masonry buildings can weaken mortar and cause structural deterioration. When water trapped in cracks and openings freezes, the ice expands—pressure that can further damage the masonry.

In addition, vines cause other forms of damage depending on their individual

*Where vegetation is essential to the integrity of a historic property, historically significant plant materials and other landscape features should be preserved and maintained while taking steps to protect and maintain historic buildings.*

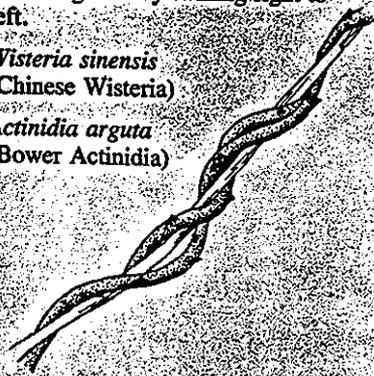
## Vine Types

### Twining

Vines may climb by twining from left to right or by twining right to left.

*Wisteria sinensis*  
(Chinese Wisteria)

*Actinidia arguta*  
(Bower Actinidia)

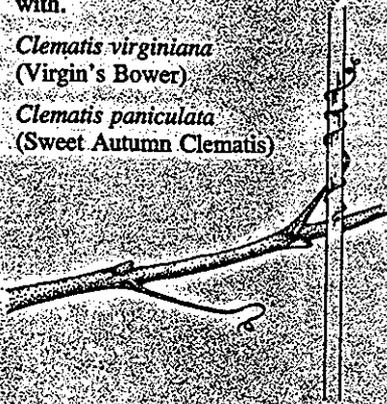


### Tendrils

The tendrils wrap themselves around anything that they come in contact with.

*Clematis virginiana*  
(Virgin's Bower)

*Clematis paniculata*  
(Sweet Autumn Clematis)

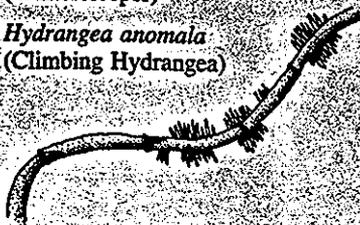


### Aerial

Small roots firmly attach the vine to either wood or masonry.

*Euonymus fortunei*  
(Wintercreeper)

*Hydrangea anomala*  
(Climbing Hydrangea)

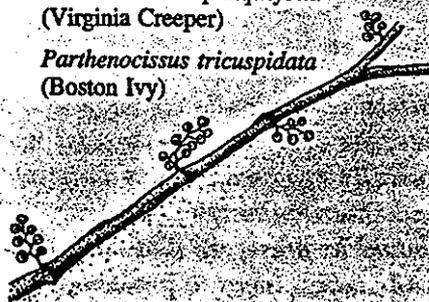


### Creeper

This vine clings by sending out small tendrils with adhesive discs that attach themselves to surfaces.

*Parthenocissus quinquefolia*  
(Virginia Creeper)

*Parthenocissus tricuspidata*  
(Boston Ivy)



growth habits. *Twining* vines climb by sending out shoots that wrap around objects and grow in both length and width. As the vine grows thicker, it can constrict these objects, causing features such as louver shutters to snap under the increasing pressure. Furthermore, the spreading shoots penetrate openings and crevices. In time, the growing vine can loosen and separate building materials.

Like twining vines, *tendrils* vines wrap around objects for support. Because they are actually extended leaves, tendrils do not grow in width, only in length. Both twining and tendrils vines, however, can break weather seals on wooden facades, separating wood shingles and siding, as well as fascia and soffit boards on porches. Other vine types include *Aerial* vines which grow small roots along the length of the stem. These rootlets cling to the wall and can force their way into crevices. The fineness and density of the rootlets makes

removal difficult. *Creeping* vines have tiny adhesive pads that cling to the building surface. Commonly found on masonry brick buildings, creeping vines do not generally cause extensive damage to structures while growing, although they may abrade softer mortar. However, they attach themselves so thoroughly to the building surface that paint, mortar, and brick are likely to be damaged when the vines are removed.

In 1980, The National Park Service began structural restoration of the house at Fairsted. To facilitate this work, the historic vines were removed from the facade and cut back to the ground. Since the vines were both historic plant material and an important feature of the property, complete removal was avoided. The vines were kept at ground level, but pruned frequently to prevent reattachment to the house. This situation resulted in weakened plant growth and an appearance quite different from

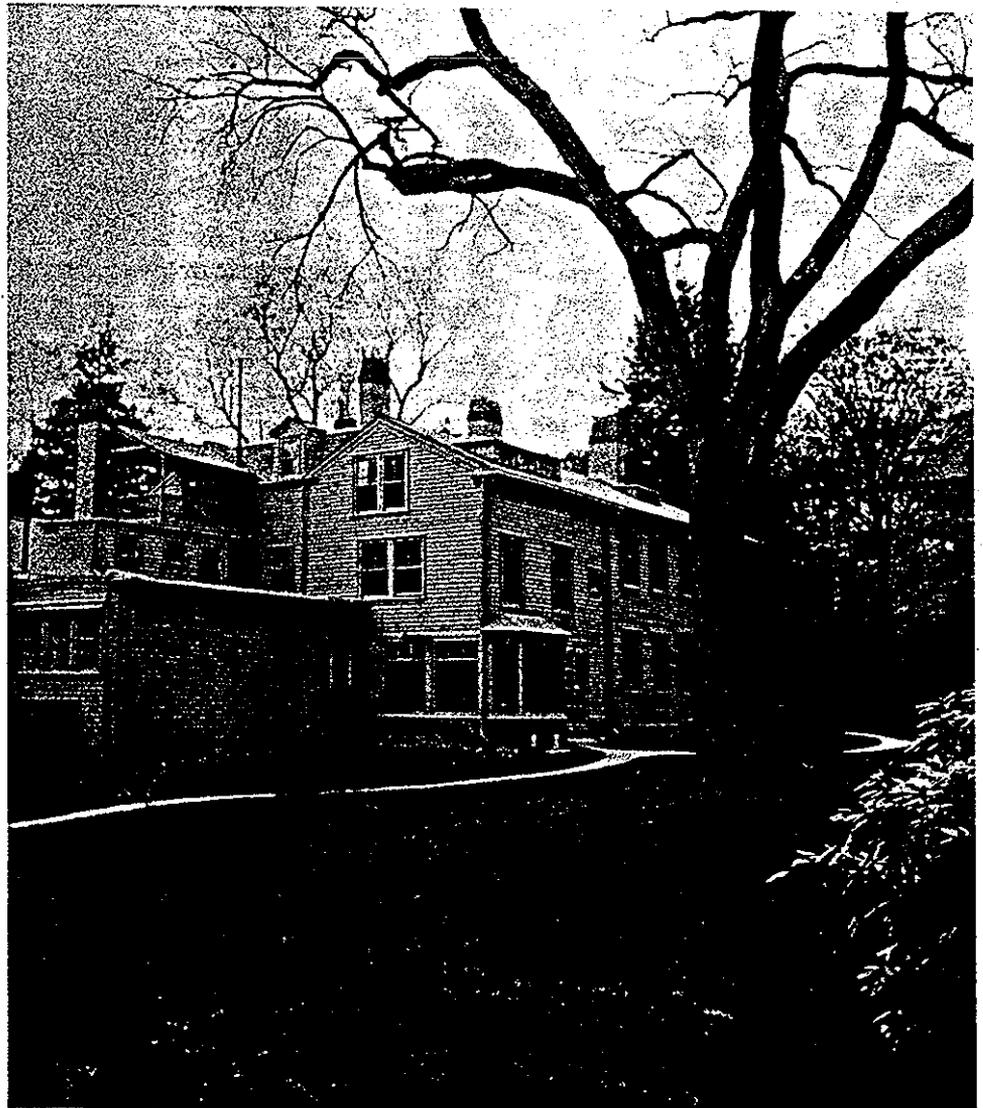


Figure 1. Historic plant materials can be retained while restoration of the historic structure is underway. The *Wisteria* and *Actinidia* vines that were historically used by Olmsted, were cut back during the restoration of Fairsted in 1988. Photo by Charles Pepper, courtesy of the Olmsted National Historic Site.

Olmsted's intention (*see figure 1*). Furthermore, long-term frequent pruning risked a higher incidence of pest-related problems to the plants and restricted their natural climbing habit. It was therefore important to the public site that a new trellis system be devised that would protect both the historic vegetation and the historic structure, while re-establishing the appearance of a "vine clad mansion."

### Historic Fairsted Trellises

Development of a new trellis system began with research into the materials, techniques and hardware used in New England between 1880 and 1930, as well as specific investigation into the various techniques used at Fairsted during those years. Historically, the east elevation of the house had two trellis structures supporting *Wisteria sinensis* (Chinese Wisteria). Photographs from as early as 1884 show a wooden trellis system at the entry porch and a spiraled steel strapping system along the house facade (*see figure 2*). Remnants of these

systems, such as eyebolts and hooks, were found intact at several locations on the structure. The kitchen wall had an interesting trellis consisting of posts with protruding pegs located between windows. Holes in the post indicated that pegs could be added or removed depending on the growth of the plant.

### Solution

After investigating the various types of historic trellis systems at Fairsted, four criteria for the new trellis systems were established to address particular preservation issues. An ideal system would:

1. provide an appropriate historic appearance;
2. suit the specific vine growth characteristics;
3. minimize the impact of the anchorage and support structure of the trellis to the historic building facade; and,
4. provide direct access to the building for preservation and maintenance purposes.

In order to meet both the above criteria and also to test alternative solutions, four different trellis systems were designed and installed for use in a two-year test phase (*see figure 3*). The first system used spiraled steel strapping; the second, aircraft cable; and the third modular pipe. The fourth system combined strapping and piping.

### Installation and Monitoring

The experimental trellis systems were constructed and installed on the south and west elevations (where the historic plant material is located) in 1989, and have been monitored for the past two years (*see figure 6*). Plant growth and development, ease of removal, appearance, and effect on the historic structure are being observed and documented regularly. Some recommendations for modification have already been made.

The steel strapping system (system 1), although painted, has shown a great amount of rust. The use of galvanized steel, painted with a zinc oxide primer and a finish coat would have discour-

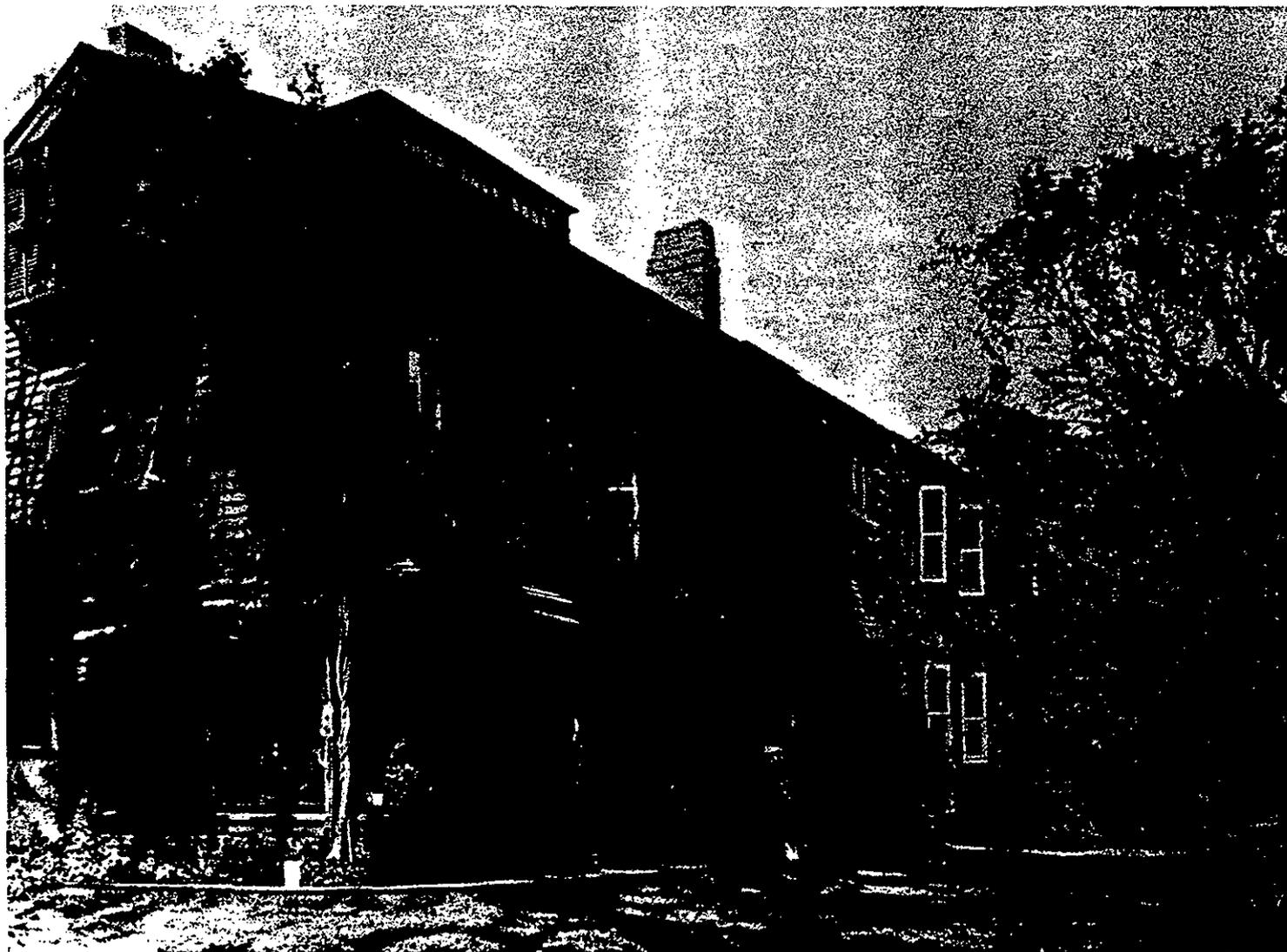


Figure 2. View of the west elevation at Fairsted which shows a steel strapping trellis system built as early as 1884. Photo courtesy of Olmsted National Historic Site.

Figure 3. The four experimental systems developed at the Olmsted National Historic Site, and some advantages and drawbacks to each.

### System 1—Spiraled Steel Strapping

#### Fabrication

**Materials:** spiraled steel strapping, hooks, snap hooks, eyebolts, and F&M ringer. The steel strapping trellis modeled after the historic design (c. 1885) developed by Olmsted. Spiraled metal strapping were attached to the house by a series of hooks and metal eyebolts. The eyebolts for this system, as well as the attachment devices for the other trellis systems are held at least 6" away from the house to allow for air circulation between the plant material, trellis system and building facade. The strapping was fed through intermediate F&M ringer located at regular intervals vertically and horizontally along the side of the house.

#### Maintenance

The ends of the spiraled strapping are fitted with snap hooks so that the trellis system can be removed for maintenance purposes, thus creating a flexible trellis system.

#### Evaluation

The spiraled steel strapping is an appropriate support for the growth habit of twining vines. The metal strapping is also effective in recreating the historic appearance of the trellis, and is also the least visible of the systems. The steel, although treated with paint, has already shown a great amount of rust, so an alternative material should be considered.

### System 2—Aircraft Cable

#### Fabrication

**Materials:** 3/8" aircraft cable, eyebolts, and hooks. 3/8" aircraft cable was substituted for the spiraled strapping in the first system. A system of eyebolts and hooks was used to secure the aircraft cable to the house.

#### Maintenance

The cable system is similar to the spiral strapping system in that it is flexible. The aircraft cable is attached to the eyebolts with snap hooks that allow the wire and vine to be removed from the building facade without damaging the trellis system, the building, or the historic vegetation.

#### Evaluation

The texture and twist of the cable support and guide to the twining vines. Like the spiral strapping, the vines grow around the cable, so the structure is not visible. The weight of a mature vine growing on the cable will make removal and replacement difficult for one person on a ladder. A temporary pulley system might be used to aid in hoisting the vines back into place.

### System 3—Modular Pipe

#### Fabrication

**Materials:** galvanized metal pipe, fittings, eyebolts, and swivel sockets. This modular pipe system is composed of galvanized metal pipe and a series of pipe fittings. This system was hinged at the base to allow the rigid trellis structure to be tilted away from the house. The support pipes were anchored in the ground by inserting them in galvanized metal sleeves that were placed below the ground surface and 6" away from the house. The top portion of the trellis structure was secured to the house by a bolt and clamp combination.

#### Maintenance

More than one person is required to remove this system. The rigid system folds out away from the house on the swivel sockets near the base of the house (see figure 4).

#### Evaluation

Although the rigid system allows the vegetation to remain stable, the pipe structure may also have problems with the weight of fully mature vines. The lifting frame may prove to be difficult to lift back into position. The twining vines do not provide enough coverage to conceal the structure completely.

### System 4—Combination

#### Fabrication

**Materials:** spiraled steel strapping, galvanized metal pipe, fittings, eyebolts, and swivel sockets. This solution is a combination of spiraled strapping, galvanized metal pipe and fittings. Eyebolts will separate the strapping from the supporting pipe structure. Swivel sockets near the base of the pipe structure allow the trellis to be tilted away from the house. This combination system provides a historic trellis appearance with the addition of rigid support. The vines are physically separated from the house, thus reducing potential damage to the facade.

#### Maintenance

The spiraled strapping can be unhooked from the pipe system for limited maintenance or the entire structure can be removed for more extensive repair.

#### Evaluation

The weight of a mature vine must also be considered in this solution. This pipe and strapping combination is not historically accurate in appearance. The twining vines cover the strapping, but the pipe structure behind is exposed.



aged rapid rusting. The flexible aircraft cable (system 2), with the added weight of a mature vine will make removal and replacement difficult for one person. A temporary pulley system is recommended to aid in hoisting the vines back into place. The third design is a rigid modular pipe system (system 3). Although the rigidity of the system is advantageous to the stability of the vegetation, the weight of the vines may also be prohibitive for easy removal and replacement. The combination strapping and pipe system (system 4) does not recreate a historically accurate appearance. The system was designed in order to remove the vines on the strapping without removing the pipe supporting system. The vines growing on the strapping do not provide sufficient coverage to hide the pipe system behind. Furthermore, additional maintenance is required to keep the vines from growing on the pipe. After the multi-year test period is complete, one of the four systems will be selected, modified as needed, and installed to the east, south and west facades of the house (see figure 7).

### Conclusion.

The trellis system solution will restore a feature that contributes to the unique character and appearance of the historic suburban estate, and thus reinforces the interpretation of the Olmsted National Historic Site. The systems discussed here were developed individually to meet the unique requirements of the property. This trellis development process, which considered the building appearance and historic character of the site in addition to the growth habits of the plant, historical trellis materials, and maintenance needs, can be applied to other sites with different needs and considerations. However, climbing vegetation should not be added to historic buildings if it did not occur historically since careful management and maintenance is required. The vines that covered Fairsted were an integral part of the historic character of the site. When vegetation is essential to the integrity of a historic property, historically significant plant materials and other landscape features should be preserved and maintained while taking steps to protect and maintain historic buildings.

Figure 4. The pipe and strapping system, constructed with swivel sockets, allows the rigid support system to fold down away from the house. The strapping can also be removed from the pipe support for limited maintenance. Photo by Karen Day.

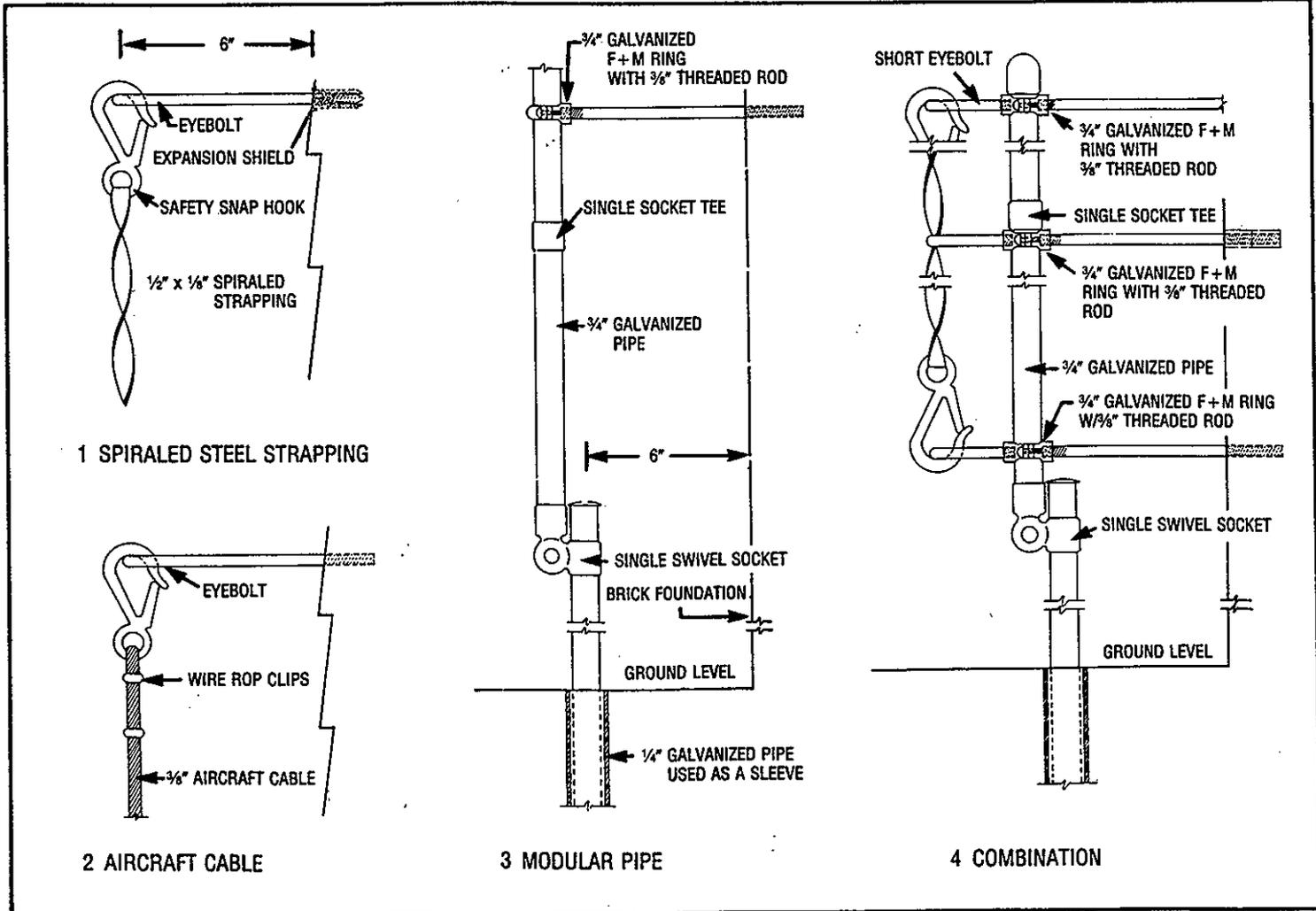


Figure 5. Details of the four experimental trellis systems. Drawings by Sharon Runner, National Park Service.

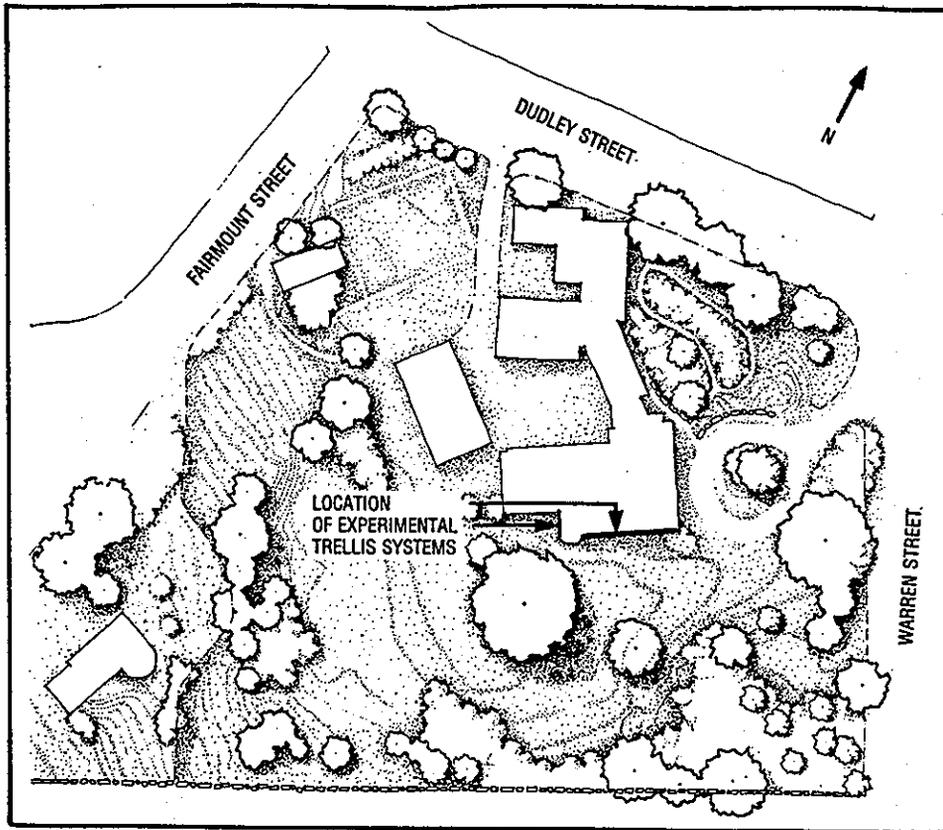


Figure 6. Site plan of Fairsted; the experimental trellis systems were installed on the south and west elevations. Drawing by Karen Day.

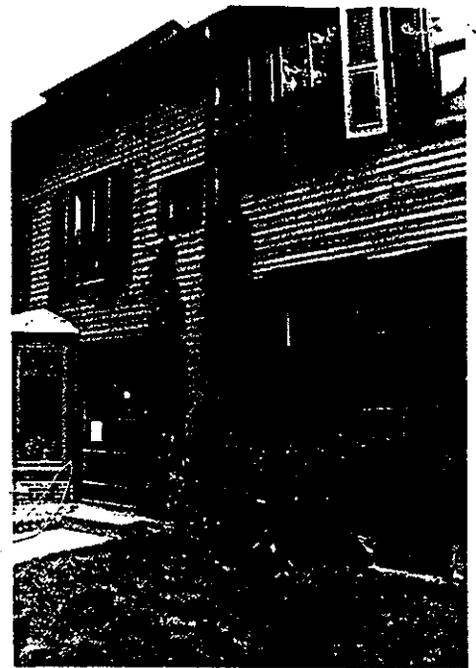


Figure 7. View of south facade, the experimental trellis systems have been in place for two growing seasons. Photo by Karen Day.

## PROJECT DATA

### Site:

Frederick Law Olmsted National  
Historic Site  
99 Warren Street  
Brookline, MA

### Owner:

National Park Service  
U.S. Department of the Interior  
Washington, DC

### Project Dates:

Spring 1989-Fall 1991

### Project Supervisor:

Charles Pepper  
Supervisory Horticulturist

### Project costs:

Materials: \$5,000

### Materials:

#### System #1

spiraled steel strapping  
hooks  
snap hooks  
eyebolts  
F & M rings

#### System #2

air craft cable 3/8"  
eyebolts  
hooks

#### System #3

galvanized metal pipe  
pipe fittings  
galvanized metal sleeves  
bolt and clamp combo

#### System #4:

spiraled steel strapping  
galvanized metal pipe  
fittings  
eyebolts  
swivel sockets

This PRESERVATION TECH NOTE was prepared by the National Park Service. Charles E. Fisher, Preservation Assistance Division, National Park Service, serves as Technical Editor of the series. Thanks go to Charles Pepper, Supervisory Horticulturist, Frederick Law Olmsted National Historic Site, for providing information on the project and reviewing the draft. Special thanks go to Lauren Meier, Ward Jandl, Michael Auer, and Tom Jester, of the Preservation Assistance Division, National Park Service, for their review and comments on the draft. Cover Photo: Historic view of south facade of "Fairsted". Courtesy of the Frederick Law Olmsted National Historic Site.

Preservation TECH NOTES are designed to provide practical information on innovative techniques and practices for successfully maintaining and preserving cultural resources. All techniques and practices described herein conform to established National Park

Service policies, procedures and standards. This Tech Note was prepared pursuant to the National Preservation Act Amendment of 1980, which direct the Secretary of the Interior to develop and make available to government agencies and individuals information concerning professional methods and techniques for the preservation of historic properties.

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## Appendix C

### Landscape Rehabilitation Task Cost Estimates

The following table contains a task by task list of cost estimates for the rehabilitation of Sagamore Hill's landscape. The tasks are arranged according to the outline of the "Landscape Rehabilitation Task" section of this document and can, therefore, be followed in the order the tasks have been presented in the previous section.

The costs included in this table have been developed using three methods or sources: 1) *Class "C" Estimating Guide, New Construction* prepared by the Estimating-Contract Administration Group, Denver Service Center, 2) *Means Site Work & Landscape Cost Data* (R.S. Means Company, Inc., 1993), and 3) comparison of recommended tasks with other similar completed work. Therefore dollar figures illustrated, which represent 1997 cost figures, are conceptual costs and very general in nature. They include only the cost of construction, including labor and materials. They do not include, unless noted, the cost of planning and design for any additional specifications or drawings required to complete the task.

The entry for each task listed is broken into three categories including the quantity or unit of measurement for that task, the cost per that unit of measurement, and the estimated total cost for that task.

REHABILITATION TASK	QUANTITY/UNIT	QUANTITY/UNIT COST (\$)	TASK COST (\$)
<b>Ice House</b>			
Remove Brick Walkway	53 square yards	7/square yard	371
Remove Railing and Signs			500
Add Gravel Walk	45 square yards	16/square yard	720
<b>Vegetation</b>			
Replace Beech Trees	2 trees	448/tree	896
Remove Honeylocust North of Veranda	1 tree	392/tree	392
Replace Elm Tree North of Veranda	1 tree	448/tree	448
Remove Cherry Trees Circle by Porte-cochere	2 trees	392/tree	784

Replace Elms and Tulip-tree Circle by Porte-cochere	3 trees	448/tree	1344
Remove Shrubs Near Windmill, Stable and Lodge, Porte-cochere	app. 25 shrubs	170/shrub	4250
Replace Shrubs Near Porte-cochere	4 shrubs	196/shrub	784
<b>Replace Vines on House (see App. B)</b>			
Scope Project			710
Wysteria on North Room	6 plants	196/plant	1176
Trellis System on North Room (includes planning, labor & materials)			5855
Wysteria around Library Window	2 plants	196/plant	392
Trellis System on Library Window (includes planning, labor & materials)			3405
Akebia on Porte-cochere	3 plants	196/plant	588
Trellis System on Porte-cochere (includes planning, labor & materials)			3605
<b>West Lawn</b>			
Vegetation Removal in West Lawn	5 acres	3808/acre	19,040
Restore Daisy Meadow (cultivate and reseed)	3.6 acres	2130/acre	7668

<b>Existing Pasture</b>			
Cultivate and Reseed	3.2 acres	2130/acre	6816
<b>Southeast Pasture</b>			
Vegetation Clearing	2.8 acres	19040/acre	53312
Cultivate and Reseed	2.8 acres	2130/acre	5964
<b>South Pasture</b>			
Vegetation Clearing	2.4 acres	19040/acre	45696
Cultivate and Reseed	2.4 acres	2130/acre	5112
<b>North Pasture</b>			
Vegetation Clearing	.8 acres	19040/acre	15232
Cultivate and Reseed	.8 acres	2130/acre	1704
<b>Orchard</b>			
Remove Trees	25 trees	392/tree	9800
Replace Trees	37 trees	448/tree	16128
Clear Invasive Vegetation	.8 acres	3808/acre	3046
<b>Circulation</b>			
Carriage Road			
Clear Vegetation	4600 sq. feet	NA	2000
Preserve Road Surface	4600 sq. feet	NA	4500
Stabilize Wall & Culvert	80 feet	NA	NA
Macadam Road			
Cut Back Vegetation	800 feet	NA	2500
Resurface Road	4000 sq. feet	35 sq. yard	15555
Stabilize Wall & Gutter	400 feet	NA	NA
Farm Road behind the			

Pet Cemetery			
Clear Vegetation	4600 sq. feet	NA	2000
Establish Compacted Soil Road Surface	4600 sq. feet	9/sq. yard	4600
Establish Grass Lawn Road Surface	4600 sq. feet	12/sq. yard	6133
<b>Pedestrian Path to Old Orchard</b>			
Lawn Path w/ lower mowing height	4680 sq. feet	NA	no additional cost
Gravel Path	4680 sq. feet	16 sq. yard	8320
Asphalt Path	4680 sq. feet	27 sq. yard	14040
<b>Views and Vistas</b>			
View Across West Lawn	completed within vegetation tasks	NA	no additional cost
<b>Small-Scale Features</b>			
Tennis Court			
Clear Vegetation	1800 sq. feet	NA	2000
Compacted Soil Surface	1800 sq. feet	9/sq. yard	1800
<b>Post and Rail Fences</b>			
Replace Deteriorated Sections of Fence	NA (needs further assessment)	19/linear foot	NA
Replace Fence Between Southeast and South Pasture	660 feet	19/linear foot	12540
Replace Fence Between North and South Pasture	400 feet	19/linear foot	7600

Replace Fence Between Orchard and Woodland	880 feet	19/linear foot	16270
Relocate Flagpole and Quentin Memorial	Flagpole and Plaque	NA	2500
Pet Cemetery Arbor and Benches	Arbor and Two Benches	NA	1800

## Appendix D

### Field Survey Report for Natural Resources Compliance Issues

Author: Kevin Mendik at NP-NARO  
Date: 3/19/97 2:04 PM  
Priority: Normal  
TO: Vidal Martinez at NP-NAR  
CC: SAHU Curator (Amy Verona) at NP-NAR  
CC: Sarah Peskin  
CC: David Usehold  
Subject: Landscape Treatment Plan

#### Message Contents

On Thursday, May 15, I conducted a site visit with Dava Usehold and park staff to determine environmental compliance issues associated with proposed actions at the site. Based on my visit, there do not appear to be any wetland issues relative to vegetation removal which are in upland areas, with the only exception being the wood pile pond. That pond appears to possess the characteristics of a vernal pool, and depending upon the specific action contemplated at that location, compliance with New York State wetlands laws would be applicable. It may also be advisable to determine the nature and extent of alterations to historic drainage from and into the pond occurring as a result of topographical alterations undertaken on the adjacent private property. If adverse impacts to the pond can be documented, appropriate remedial action should be pursued.

Section 7 consultation with the USFWS should be documented, as it is possible that listed rare, threatened or endangered species may live in or utilize the adjacent wildlife refuge and may also use portions of the park for foraging or hunting. It is their responsibility to determine the presence of and potential impact to those species in affected areas.

It was also brought to my attention that numerous mature ornamental specimens will be removed as part of the treatment plan. Prior to doing this, it may not be a bad community relations move to contact some of the abutters to determine if they would be interested in removing those trees for their use at their expense if this could be done without causing adverse impacts that might be caused by the use of trucks with large tree spades. As many of our neighbors may be concerned by removal of screening, it may also be desirable to maintain some vegetative buffer in those areas where residences would be visible from cleared areas.

Please feel free to contact me if you have any questions.