Historic Architecture Program
Northeast Region

THE NEW BARN

Sagamore Hill National Historic Site
Oyster Bay, New York

Historic Structure Report

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HISTORIC STRUCTURE REPORT

Sagamore Hill National Historic Site
Oyster Bay, New York

By

James J. Lee, III, Architectural Conservator
Historic Architecture Program
Northeast Region, National Park Service
Lowell, Massachusetts

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CONTENTS

LIST OF FIGURES AND CREDITS

Figures

Note: unless otherwise noted, all photographs are by the author, 2005.

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James J. Lee III

INTRODUCTION

EXECUTIVE SUMMARY

Purpose and Scope

This historic structure report (HSR) was produced by the Historic Architecture Program (HAP) of the Northeast Regional Office, National Park Service (NPS), in order to document the development and use of the New Barn at the Sagamore Hill National Historic Site (NHS). Furthermore, it is intended to inform and guide the rehabilitation of that historic structure. Sagamore Hill NHS is in the process of drafting a General Management Plan (GMP). The preferred alternative of the draft GMP recommends that the New Barn be expanded to serve as the visitor orientation center. This alternative proposes "rehabilitation" of the barn, which includes the restoration of the exterior to its appearance during the Roosevelt family tenure, and the creation of a visitors' center at the New Barn, with an addition to the existing structure.

The scope of this historic structure report was to perform a "thorough" investigation of the New Barn as defined by *Director's Order #28: Cultural Resource Management Guidelines*. The report, which deals primarily with the subject building, incorporates context and background information about Sagamore Hill. Sections include "Part I: Developmental History," and "Part II: Treatment and Use." The latter provides a list of character- defining features (CDFs), in accordance with NPS standards. Paint analysis and color- matching of the building's exterior finishes is included as an appendix to this report. The report does not include a condition assessment, nor does it include a "Part III, Record of Treatment," which should accomplished by the contractor after the treatment is completed.

Historical Overview[1]

Sagamore Hill, situated on the peninsula of Cove Neck, was purchased by Theodore Roosevelt in 1880. The land had previously been used by the Matinecock Native Americans, an Algonquin tribe, until they signed away their rights to settlers of European descent.[2] Large portions of the property were actively farmed by settlers from the late 17th century through the 19th century, when Theodore Roosevelt purchased the property. During his stewardship, Roosevelt continued to maintain the working farm, and he derived immense enjoyment from the natural setting of the site. Soon after purchasing the property, Roosevelt and his first wife, Alice Lee,

[1] This section of the report relies primarily on Regina Bellavia and George W. Curry, *Cultural Landscape Report for Sagamore Hill National Historic Site* (Brookline, MA: U.S. Department of the Interior, National Park Service, Olmstead Center for Landscape Preservation, 1993; Reprint 2003).

[2] John E. Hammond, *The Early Settlement of Oyster Bay* (Oyster Bay, NY: Oyster Bay Historical Society, *Freeholder Magazine*, 2003) p. 1. Mr. Hammond also notes that Native Americans may not have believed they were signing away their rights to the land but may have thought instead that the gifts and monies exchanged (if any) were merely form of tribute from the settlers to the Native Americans.

began planning a residence at the site. Days after giving birth to their daughter, Alice Lee died. The tragedy of her death weighed heavily on Theodore Roosevelt, but he was determined to build on the property and provide a good home for his new daughter. The main house at Sagamore Hill was completed in 1885. Theodore Roosevelt married his second wife, Edith Kermit Carow, in 1886. He continued to enjoy the property in all seasons until his death in 1919, and he shared his love of Sagamore Hill with his family.

Edith K. Roosevelt maintained Sagamore Hill as a summer residence until her death in 1948. During her stewardship the property continued as a working farm, though perhaps not as active as during Theodore Roosevelt's time. The most significant change to the site during this period was the construction of Old Orchard House on a piece of the property east of the main house that had been an apple orchard. Theodore Roosevelt, Jr., and his wife purchased 4 acres of land, including the orchard, from Edith Roosevelt in 1938. In the area of the apple orchard the younger Roosevelt built a brick Colonial Revival- style house named Old Orchard House. Edith K. Roosevelt and her heirs began discussing the fate of Sagamore Hill with the Roosevelt Memorial Association (RMA) in the 1940s prior to her death. The RMA, later the Theodore Roosevelt Association (TRA),[3] had been chartered by an Act of Congress in 1920 to preserve the legacy of Theodore Roosevelt, as well as the place's associated with his life and presidency. The TRA had opened the Birthplace of Theodore Roosevelt in Manhattan in 1923, and was certainly interested in Sagamore Hill. Upon Edith Roosevelt's death, the organization continued to pursue the purchase of the property.

Negotiations between Mrs. Roosevelt's heirs and the TRA culminated in the final purchase of Sagamore Hill by the TRA in 1950. The sale included the entire site, the buildings, and most of the contents of the main house. The TRA intended to operate the site as a shrine to Theodore Roosevelt, and in June 1953, it opened the site and the museum (located in the main house) to the public. The TRA continued to manage the site until 1963, when it donated Sagamore Hill to the federal government.

Public Law 87- 547, signed by President John F. Kennedy on July 25, 1962, authorized the establishment of the Theodore Roosevelt Birthplace and Sagamore Hill National Historic Site. Sagamore Hill NHS was formally established on July 6, 1963. Since then, the National Park Service, under the auspices Department of the Interior, has preserved and maintained the site.

Statement of Significance

The Sagamore Hill National Historic Site and the Theodore Roosevelt Birthplace National Historic Site were authorized by Public Law 87- 547, signed by President John F. Kennedy on July 25, 1962. Sagamore Hill NHS was established July 9, 1963, and was listed on the National Register of Historic Places on October 15, 1966. The significance of the estate is attributed to its association with Theodore Roosevelt, 26th President of the United States; his wife Edith Kermit Roosevelt; and their son Theodore Roosevelt, Jr. The architecture of the main house, a Queen Anne- style structure designed by the renowned architectural firm of Lamb & Rich and

[3] The Roosevelt Memorial Association (RMA) changed its name to the Theodore Roosevelt Association (TRA) in 1953. For the purpose of consistency, this report will refer to the records as those of the TRA.

constructed in 1884- 1885, is also identified as one of the criteria for listing on the National Register.

During Theodore Roosevelt's presidency, 1901- 1909, Sagamore Hill served as the "Summer White House," and it was the setting for the initial conferences negotiating peace in the Russo-Japanese War in 1905.[4] Sagamore Hill was also important as a family home that remained in the Roosevelt family for 64 years. Theodore Roosevelt used the estate as his retreat during all seasons until his death in 1919, and Edith Kermit Roosevelt continued to use Sagamore Hill as a summer residence, and as the focus for family activity.[5]

Sagamore Hill was also a working farm, with portions of its 87 acres maintained as cultivated fields, pastures, and an orchard and gardens, all of which was bordered by woodland.[6] The farm included a century- old barn, which was on the property when it was acquired by Theodore Roosevelt in 1880.[7] When the old barn collapsed in 1904, planning began for a replacement barn. The New Barn was completed in 1907, and was an important part of the farming operation during Theodore Roosevelt's tenure.[8]

The New Barn was a wood- framed structure, 32 feet wide by 42 feet long, with central openings on the side elevations (north and south) and a gambrel roof with a centered cupola. During Roosevelt's time it was used for storing crops and farm equipment, as well as sheltering livestock. The New Barn continued in that function until it was converted into living quarters and garage bays ca. 1947.[9] The residence was used by the site's caretaker, who had been displaced when fire destroyed the stable and lodge in July of 1944, and the garage housed the estate's automobiles.

The New Barn is a contributing structure to Sagamore Hill National Historic Site. It was an important part of the farming operation at Sagamore Hill, and remained a fixture on the estate throughout the Roosevelt occupancy. The focus of interpretation of Sagamore Hill as the summer home of Theodore Roosevelt from 1884 – 1919 includes the interpretation of the working farm, of which the New Barn was an important fixture from its construction in 1907 through ca. 1947, when it was converted to living quarters and garage bays.

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[4] Bronwyn Krog, *National Register of Historic Places Inventory – Sagamore Hill National Historic Site* (Boston, MA: U.S. Department of the Interior, National Park Service, North Atlantic Regional Office, October 1978), Statement of Significance.

[5] Marie L. Carden and Richard C. Crisson, *Sagamore Hill, Home of Theodore Roosevelt, Historic Structure Report* (Boston, MA: U.S. Department of the Interior, National Park Service, North Atlantic Regional Office, 1988), p. 17.

[6] Bellavia and Curry, p. 1.

[7] Bellavia and Curry, pp. 32- 33.

[8] Francis Wilshin, *Historic Resource Study, Sagamore Hill and the Roosevelt Family*, Vol. I (Denver, CO: U.S. Department of the Interior, National Park Service, Denver Service Center, October 1972), p. 114.

[9] Bellavia and Curry, pp. 112 and 114.

Research Conducted

This report documents the history of the New Barn at Sagamore Hill NHS, relying on physical investigation of extant building materials and on documentary research, using both primary and secondary sources. Repositories consulted and utilized for materials pertaining to the subject are as follows:

Cove Neck Village, Town Clerk, Cove Neck, NY
Harvard University Libraries, Cambridge, MA
Library of Congress, Washington, DC;
Sagamore Hill National Historic Site Archives, Oyster Bay, NY
Theodore Roosevelt Association, Oyster Bay, NY
Oyster Bay – East Norwich Public Library, Oyster Bay, NY
Oyster Bay Historical Society, Oyster Bay, NY
Oyster Bay Town Hall, Building Department, Oyster Bay, NY
NPS, Historic Architecture Program Library, Lowell, MA
NPS, Olmsted Center for Landscape Preservation, Brookline, MA

Research Findings

Review of the reports, documents, and photographs available in the Sagamore Hill NHS Archives provided background for further research and physical investigation of the New Barn. Previous reports by Regina Bellavia and Francis Wilshin, among others, provided useful background information and were useful in determining where to conduct further research. Research focused in the Sagamore Hill NHS archival collection and the Theodore Roosevelt Association (TRA) papers stored at Sagamore Hill NHS, and also included examination of the Theodore Roosevelt Papers at Harvard University.

The Lamont Library at Harvard University is a repository for the microfilm version of the Theodore Roosevelt Papers. The papers consist of correspondence, press releases, articles, personal diaries, and business papers, as well as other items, and are arranged in 15 series. The collection was indexed by the Library of Congress in 1969, and includes the papers of Theodore Roosevelt and Edith Kermit Roosevelt, as well as many other family members and associates.[10] The Theodore Roosevelt Papers provided some useful clues to the history of the New Barn. Correspondence between Mrs. Edith K. Roosevelt and farm manager Noah Seaman discussed the planning of the New Barn after the collapse of the old barn in 1904. The name of a local builder was mentioned in their correspondence, which prompted further research into that particular builder and his association with Sagamore Hill. Review of further correspondence from the Theodore Roosevelt's personal secretary, William Loeb, Jr., confirmed the 1907 date of construction established by earlier research.

[10] *The Theodore Roosevelt Papers Finding Aids at the Library of Congress* (Library of Congress: http://memory.loc.gov.ammen/trhtml/trfaid.html).

Extensive research was conducted at the Sagamore Hill NHS Archives. The materials reviewed included the papers of Edith Kermit Roosevelt, the site's collection of TRA papers, and the documents of the NPS. The Sagamore Hill account books kept by Mrs. Roosevelt yielded information that was useful in confirming the date of construction of the New Barn. Mrs. Roosevelt's account records and bills from the 1940s provided dates for the conversion of the New Barn to a garage. The records of the TRA were useful in determining alterations to the New Barn, and helped establish the sequence of exterior paints. In a similar manner, the NPS records provided information on changes to the building and the frequency of regular maintenance.

Research in Oyster Bay repositories, including the Oyster Bay Historical Society and the Oyster Bay – East Norwich Public Library, provided information about the local builder, James K. Mailler, who worked for the Roosevelts at the time the New Barn was built, and who may have constructed the barn (see the subsequent discussion "Construction"). These sources also confirmed other information about the site, and were a source for local history.

Recommended Treatment

The treatment for the New Barn, as proposed in the preferred alternative of the draft GMP, is "rehabilitation" in accordance with the Secretary of the Interior's Standards. The preferred alternative of the draft GMP discusses reusing the interior of the New Barn as a visitor orientation center. In that plan the rehabilitation of the New Barn will focus on exterior restoration with a new addition and the interior will be part of an adaptive use project.

The rehabilitation of the New Barn should conform to the Secretary's Standards for the Treatment of Historic Properties, which defines rehabilitation as:

> the act or process of making possible a compatible use for a property through repair, alterations, and additions, while preserving those portions or features which convey its historical, cultural, or architectural values.[11]

Sagamore Hill NHS emphasizes the period of 1884- 1919, the years when Theodore Roosevelt was associated with the site, and which includes the construction of the Queen Anne- style main house.

The proposed treatment for the New Barn would involve rehabilitating the exterior to reflect its historic appearance as a barn. The interior of the building would be reused as a visitor orientation center, and an addition to the building would augment that function.

The New Barn functioned as the barn for Sagamore Hill from the date of its construction in 1907 through 1944, when the first alterations were made to the building for the use as a garage and residence. Thus, during the period of significance for the site, the building's primary

[11] Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington, D.C.: U.S. Department of the Interior, National Park Service, 1995), p. 62.

function was as a farm barn. As previously discussed, the interpretive focus of the site is the Theodore Roosevelt era. While the alterations made in 1944 do represent a change in use, for a significant period of the building's association with the site, it functioned as a farm barn. Therefore, the rehabilitation of the exterior of the New Barn to its appearance during the period of 1907 – 1944 is recommended, and the reuse of the building as a visitor orientation center with an appropriate addition should not have an adverse affect on the structure or the site.

Additions to the New Barn should follow the Secretary of the Interior's Standards for Rehabilitation, which state:

> 9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
>
> 10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. [12]

The treatment for the New Barn as discussed in the preferred alternative of the draft GMP should not adversely affect the building, and will not diminish the barn's status as a contributing structure to the overall historic significance of Sagamore Hill.

[12] *The Secretary of the Interior's Standards for Rehabilitation* (National Park Service website, www.cr.nps.gov/hps/tps/standguide/rehab/rehab_standards.htm)

ADMINISTRATIVE DATA

Location of Site

Sagamore Hill is located on Long Island in the village of Cove Neck, New York. Long Island extends some 118 miles northeast from the shores of Manhattan, and is 20 miles across at its widest part. The village of Cove Neck was incorporated in 1927 and is situated in the Town of Oyster Bay, Nassau County, New York, along the northwestern shore of Long Island approximately 35 miles from Manhattan.[13]

National Register of Historic Places

Sagamore Hill National Historic Site (Sagamore Hill NHS) was listed on the National Register of Historic Places on October 15, 1966. The National Register of Historic Places Registration Form (NPS Form 10- 900) is currently being revised. The revised form lists the Period of Significance for the site as 1884 – 1948. Sagamore Hill NHS is significant for its association with Theodore Roosevelt (1858 – 1919), Edith K. Roosevelt (1861 – 1948), and Theodore Roosevelt, Jr. (1887 – 1944), as well as the architecture of the main house at Sagamore Hill (constructed 1884- 1885). The areas of significance include politics/government, architecture, and conservation. Of primary significance for the site is the period attributed to the Roosevelt presidency, 1901 – 1909, but the site is also significant as the Roosevelt family home from 1884 to 1948.[14]

The physical description of Sagamore Hill in the registration form includes a list of historic structures that includes the New Barn, constructed in 1907 to replace the nearly 100- year- old barn, which had collapsed in 1904.[15]

[13] Bellavia and Curry, p. 1.

[14] *National Register of Historic Places Registration Form – Sagamore Hill National Historic Site* (Boston, MA: U.S. Department of the Interior, National Park Service, Northeast Regional Office, revised, 2005), "Statement of Significance."

[15] Krog, National Register Inventory, Item 7, p. 6; National Register Registration Form, Item 7, p. 4.

List of Classified Structures (LCS) Information

All of the historic structures at Sagamore Hill National Historic Site are on the List of Classified Structures (LCS). The New Barn is situated northeast of the main house. The LCS file information for the New Barn is as follows:

Preferred Structure Name:	New Barn
Structure Number:	Q04
LCS ID Number:	005442
National Register Status:	Entered – Documented
National Register Date:	10/15/1966 (Documented 01/31/1980)
National Register Number:	66000096
National Historic Landmark:	No
Significance Level:	Contributing
Short Significance Description:	"Constructed in 1907, three years after the 100-year- old original barn collapsed; the New Barn had large central opening with sliding doors and a cupola, and was used for storage of farm equipment and crops and to shelter livestock. Converted into quarters and a garage after stable/lodge burned 1947."[16]

Proposed Use

The preferred alternative of the draft GMP recommends that the New Barn be expanded to serve as the visitor orientation center. This alternative includes the rehabilitation of the New Barn.

[16] *List of Classified Structures - Sagamore Hill National Historic Site* (Boston, MA: U.S. Department of the Interior, National Park Service, Northeast Regional Office, 1994).

Related Studies

Several publications identified in the NPS Cultural Resources Management Bibliography (CRBIB) were consulted in the preparation of this report. Some of these publications provide more background information about the history of the Sagamore Hill, specific buildings on the site and the cultural landscape. These include the following:

Regina M. Bellavia and George W. Curry, *Cultural Landscape Report for Sagamore Hill National Historic Site* (Brookline, MA: U.S. Department of the Interior, National Park Service, Olmstead Center for Landscape Preservation, 1993, Reprint 200).

J. Brown, J. DeMarce, P. Steele, and J. MacInnes, *Historic Resources Management Plan, Sagamore Hill* (U.S. Department of the Interior, National Park Service, Sagamore Hill National Historic Site, 1975).

Marie L. Carden and Richard C. Crisson, *Sagamore Hill: Home of Theodore Roosevelt, Historic Structure Report* (Boston, MA: U.S. Department of the Interior, National Park Service, North Atlantic Regional Office, 1988).

Interpretive Prospectus, Sagamore Hill National Historic Site, New York (U.S. Department of the Interior, National Park Service, 1970).

Francis Wilshin, *Historic Resource Study, Historical Base Map Documentation*, Vol. I (Denver, CO: U.S. Department of the Interior, National Park Service, Denver Service Center, October 1972.

Francis Wilshin, *Historic Resource Study, Sagamore Hill and the Roosevelt Family* (Denver, CO: U.S. Department of the Interior, National Park Service, Denver Service Center, October, 1972).

PART I.

DEVELOPMENTAL HISTORY

HISTORICAL BACKGROUND AND CONTEXT

Early History of Long Island

Prior to the settlement of Long Island by Europeans, the area was inhabited by Native Americans who called the island Seawanhacky (Island of Shells).[1] The Native Americans led a nomadic existence, taking advantage of seasonal climate changes and the bountiful environs of Long Island.[2] The tribe inhabiting the area, which included Oyster Bay, was the Matinecock Indians, who were part of the Algonquin family of Native Americans. The Matinecocks had several villages throughout Long Island with an estimated population of 6,500 in the early 1600s.

The first European contact with Long Island in the early 1600s was during the explorations of Henry Hudson in 1609 and Adrian Block two years later. During this same period the Dutch discovered and settled the southern tip of Manhattan Island and named it New Amsterdam. It was sometime during these early explorations that Oyster Bay received its name, which appeared on maps prepared by Dutch traders after a trading expedition in 1621.

Both the Dutch and the English were very active in trading and exploring in the northeast and the Long Island area. The island thus became settled with both Dutch and English communities. The early history of Long Island is embroiled in disputes between the Dutch and the English. Much of the island was initially claimed as Dutch territory by the Dutch West India Company, but the Dutch could not control such a large territory and often allowed English settlers to establish communities throughout the area.

The Treaty of Hartford signed between the Dutch and English in September 1650 appeared to give control of sections of Long Island, including Oyster Bay, to the English. But this again was an area of contention that remained unresolved for years.

The dispute over territory and the governance of Long Island continued well into the 17th century. In August 1664 the Dutch relinquished control over New Amsterdam, which was renamed New York and converted into an English colony in 1665. The final treaty between the English and the Dutch, signed in 1674, gave the English control of New York and Long Island.[3]

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[1] The section relies primarily on the research and writing performed by John E. Hammond entitled *The Early Settlement of Oyster Bay* (The Oyster Bay Historical Society, *Freeholder Magazine*, 2003). A more in- depth discussion of the early history of Oyster Bay can be found in that article, as well as Francis Irvin's *Oyster Bay: A Sketch* (Oyster Bay, NY: Oyster Bay Historical Society, 1987).

[2] Regina Bellavia and George W. Curry, *Cultural Landscape Report for Sagamore Hill National Historic Site* (Brookline, MA: U.S. Department of the Interior, National Park Service, Olmstead Center for Landscape Preservation, 1993; Reprint 2003), p. 11.

[3] Bellavia and Curry, pp. 11 – 12.

Oyster Bay

The first settlement in Oyster Bay was established by the Dutch in 1632, but the Dutch settlers did not remain in the area. It was later occupied by English squatters in the 1640s. However, the English did not have permission from the Dutch to do so, nor had they purchased the land.[4]

The first legal claim to land in Oyster Bay by settlers of English decent was in 1653 when a group of settlers sailed from Barnstable, Massachusetts, to Oyster Bay. Their ship was the *Desire,* which was owned by Samuel Mayo. Mayo, along with Reverend William Leverich and Peter Wright, first purchased land in Oyster Bay from the Native Americans living in the area. The three bought their land from the local Matinecock chieftain, sachem "Mohannes," also known as sagamore Assiapum[5], in the spring of 1653. However, it was not until the Colony of New York was established that the settlement at Oyster Bay received its charter from the new government in 1667.

From the time of its establishment into the 18th century, Oyster Bay remained a small community, with a more densely populated village center surrounded by land cultivated for agricultural production. The town benefited from both the fertile soil in the area and the deep, protected harbor, which offered access for trading ships and ferry service to Manhattan Island. As a result, Oyster Bay developed into a prosperous community.

The American Revolution saw British troops occupy Oyster Bay to take advantage of the area's convenient harbor and bountiful land. The troops cleared woodlands for firewood and confiscated portions of the local farmers' crops, all of which took a great toll on the resources of Oyster Bay. The economies of the North Shore communities of Long Island, including Oyster Bay, were slow to recover after the war. The area's population had declined, and the British troops had so depleted the natural resources that it took years for them to rebound.

Not until the Long Island Railroad (LIRR) was completed in 1844 did Long Island really began to revitalize. However, the layout of the rail lines did not extend to Oyster Bay, and citizens of the town had to use the Syosset line, which was completed in 1854. The LIRR finally completed a branch to Oyster Bay in 1899, which led to the community's growth as a recreation area and summer residence for wealthy New Yorkers.

"Theodore Roosevelt's ancestors were among these prominent New Yorkers," states Regina Bellavia in her *Cultural Landscape Report for Sagamore Hill National Historic Site*. "His grandfather, Cornelius van Schaak Roosevelt, founded the Chemical Bank of New York, and his father Theodore Roosevelt, Sr., a prominent figure in charitable and civic organizations, was a founder of the American Museum of Natural History."[6] Members of the Roosevelt clan began

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[4] The section relies primarily on Hammond, *The Early Settlement of Oyster Bay*, and Bellavia and Curry, *Cultural Landscape Report*.

[5] This particular Algonquin chieftain is alternately referred to as sachem Mohannes, Sagamore Mohannis, and sachem Assiapum in various publications. Both of the nouns "sachem" and "sagamore" mean a Native American chief, especially from the Algonquin tribe. The most recent publications indicate that the chief's name was Mohannes, who was also known as Assiapum. The 1653 deed was not reviewed during the research of this report.

[6] Bellavia and Curry, p. 14.

spending their summers in Oyster Bay in the 1870s, and Theodore Roosevelt continued the family tradition when he purchased property in the Cove Neck area of Oyster Bay in 1880.

During the late 19th century and into the 20th century, when Theodore Roosevelt was residing at Sagamore Hill, the town of Oyster Bay was still a small community. The village area remained the most densely populated, and was also home to the druggist, doctor, post office, and tavern (fig. 2). The summer residences were built farther away from the village center, and occupied large tracts of land overlooking the water.

The natural resources of the area continued to play an important role in the lives of Oyster Bay residents. The fertile soil provided area farmers with a good harvest, and the bay and harbor served local fishermen. Oyster Bay was also becoming a popular place for recreation, which was fostered by the easy access to water, as well as the clean and healthy climate away from New York City.

The extension of the LIRR to Oyster Bay in 1899 definitely helped spur the growth of the community. That same year Oyster Bay and the Cove Neck area became part of the newly formed county of Nassau, which had been parceled off from the eastern half of Queens County. Along with the rest of Long Island, Oyster Bay was a growing community. The advent of the automobile and the construction of new roadways at the beginning of the 20th century also contributed to the expansion of the area.

This period in Long Island's history was marked by the construction of lavish estates supporting opulent life styles, and it has been described as the "Gold Coast era." This prosperity particularly affected the North Shore of Long Island and the town of Oyster Bay. The estates of Louis Comfort Tiffany and railroad tycoon Otto Kahn were among those constructed in the vicinity of Oyster Bay.

Theodore Roosevelt's association with Oyster Bay and its environs began before the Gold Coast Era, and during that time of grand estates, Sagamore Hill remained a more modest estate surrounded by woodlands and a working farm.

Sagamore Hill

The property purchased by Theodore Roosevelt was situated on the highest point of Cove Neck in the town of Oyster Bay. The area had been owned by the local tribe of Algonquin Indians, the Matinecocks, who had assigned their rights to the property to Joseph Cooper in 1667, who subsequently deeded the land to the Youngs family.[7] The Youngs were farmers who had been among the early settlers of Oyster Bay.[8] In 1880 Thomas Youngs deeded to Theodore Roosevelt approximately 155 acres on Cove Neck that extended across the breadth of the peninsula, from Oyster Bay Harbor to Cove Neck Harbor.[9] The parcel was abutted by property primarily belonging to relatives.

[7] Bellavia and Curry, p. 19.
[8] Irvin, p. 41.
[9] Bellavia and Curry, p. 19.

At that time Roosevelt was married to Alice Hathaway Lee, whom he had met in Boston while attending Harvard University. Theodore Roosevelt made a sketch of his new property and the couple began planning the estate (fig. 3). Theodore Roosevelt hired the architectural firm of Lamb & Rich to design a stable and lodge, and in 1883 John A. Wood & Son were contracted to build the structures (fig. 4).[10] Lamb & Rich were also commissioned to design the main house for the property.

Tragically, Alice Lee Roosevelt died before the home at Sagamore Hill was built, and Theodore Roosevelt's mother died on the same day. Though stricken, Roosevelt decided to proceed with plans for main house at the estate. He considered naming the property Leeholm in honor of Alice Lee, but instead named the property Sagamore Hill, after the Matinecock Indian Sagamore Mohannis:

> Sagamore Hill takes its name from the old Sagamore Mohannis [sic], who, as chief of his tribe, signed away his rights to the land two centuries and a half ago. The house stands right on the top of the hill, separated by fields and belts of woodland from all the other houses, and looks out over the bay and Sound. We see the sun go down beyond the long reaches of land and water.[11]

The Queen Anne- style main house, designed by Lamb & Rich and constructed in 1884 – 1885, was situated on what was then a treeless hill with a commanding view of Oyster Bay Harbor and Long Island Sound, as described by Roosevelt (fig. 5).

As explained previously, the parcel bought by Roosevelt in 1880 was abutted by property primarily belonging to relatives. Roosevelt later sold off some of his land, again mostly to relatives, so by 1906 the estate at Sagamore Hill was comprised of 87 acres of open pasture, woodland, and beach frontage on Cold Spring Harbor (fig. 6).[12]

An existing barn was "the only building on the bare treeless hill" when Theodore Roosevelt purchased Sagamore Hill in 1880. [13] The old barn was situated on the southern boundary of the property approximately 400 feet southeast of the main house.[14] Roosevelt used it to support the farming operation, and it also played a role in family recreation at Sagamore Hill, contributing to the enjoyment of adults and children alike.[15]

> One of the stand- bys for enjoyment, especially in rainy weather, was the old barn. This had been built nearly a century previously, and was as delightful as only the pleasantest kind of old barn can be. It stood at the meeting spot of three fences. A favorite amusement used to be an obstacle race when the barn was full of hay.[16]

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[10] Bellavia and Curry, p. 34.
[11] Theodore Roosevelt, *Theodore Roosevelt: An Autobiography* (New York: The MacMillan Co., 1913), p. 342.
[12] Bellavia and Curry, pp. 20 – 23.
[13] Bellavia and Curry, p. 19.
[14] Bellavia and Curry, p. 33.
[15] Bellavia and Curry, p. 32.
[16] Roosevelt, *Theodore Roosevelt,* p. 372.

The 1880 deed to the property indicated that the old barn was used for storage of crops. Roosevelt wrote it was "full of hay," and it may have housed livestock as well.[17] Historic photographs of the old barn depict a wood- frame structure with vertical siding and large hinged doors more or less centered on the side elevation (figs. 7- 8). The location of the double doorway on the side elevation indicates that the plan of the old barn consisted of a central bay flanked by storage bays. Writing to Emily Carow in August 1903, Theodore Roosevelt described an afternoon of romping in the old barn, in which Quentin jumped from "one hay level to another fifteen feet below."[18] This description gives an indication of hay lofts in the old barn. A letter written by Mrs. Roosevelt, subsequently citied, described the old barn as "without any cellar," which was common for barns built prior to the 1840s.[19]

The descriptions of the old barn and the historic photographs depict a barn built in the style of an English barn. The English barn had its roots in Great Britain, where traditionally barns served only one function, such as a hay barn or a livestock barn. The Americanized version of the English barn often combined the functions of the barn into one structure.[20] Three- bay barns were common throughout New England in the 18th century, but were also built in areas of New York that were settled by the English and influenced by their traditions.[21] The presence of settlers from England (via New England) in Oyster Bay may explain the use of the English barn form in the construction of the old barn at Sagamore Hill.

The typical English barn was organized in three bays, such that the central bay separated two side bays. Traditionally the central bay was used as a threshing floor for the winnowing of grain during the hand- threshing process, and as a drive- up bay for unloading wagons. Thus the central threshing and wagon- drive bay was flanked by hay storage bay ("haymow") and a livestock "tie- up" bay. One of the distinguishing characteristics of the English barn was the location of the major doorway to the central bay, which was centered in the side wall of the structure, as opposed to the gable end.[22]

In a letter to Theodore Jr. dated November 4, 1903, Theodore Roosevelt wrote: "The old barn I am sorry to say, seems to be giving away at one end."[23] This was the beginning of the end for the old barn, which appears to have completely collapsed, or been demolished, by the fall of 1904.[24] The foundation stones remain along the southern property line of the Sagamore Hill National Historic Site.[25]

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[17] Bellavia and Curry, pp. 19 and 32.

[18] Francis Wilshin, *Historic Resource Study, Historical Base Map Documentation,* Vol. II (Denver, CO: U.S. Department of the Interior, National Park Service, Denver Service Center, October 1972), p. 49.

[19] Thomas Durant Visser, *Field Guide to New England Barns and Farm Buildings* (Hanover, NH: University Press of New England, 1997), p. 40.

[20] Thomas C. Hubka, *Big House, Little House, Back House, Barn* (Hanover, NH: University Press of New England, 1984), p. 54.

[21] John Michael Vlach, *Barns* (New York: W.W. Norton & Co., Inc., 2003), p. 86.

[22] Hubka, pp. 54 - 55. Also see Visser, pp. 61 - 66. Note: The content on English barns is primarily based on descriptions by Hubka.

[23] Theodore Roosevelt to Theodore Roosevelt, Jr., November 4, 1903. Series 2, Vol. 43 – p. 246, Reel 332, Theodore Roosevelt Paper (TR Papers), Library of Congress (LOC), Harvard University Library (HL), Government Documents Microtext Division (GDMD).

[24] Wilshin, Vol. II, p. 50.

[25] Bronwyn Krog, *National Register of Historic Places Inventory – Sagamore Hill National Historic Site* (Boston, MA: U.S. Department of the Interior, National Park Service, North Atlantic Regional Office, October 1978), Item 7, p. 6.

The collapse of the old barn would have left the farming operation at Sagamore Hill without a place to store additional hay, crops, and farm equipment. It appears that the stable and lodge took over part of that function, but there remained a need for a new barn.

Figure 1. Location map, Long Island, Nassau County, Oyster Bay, Cove Neck.

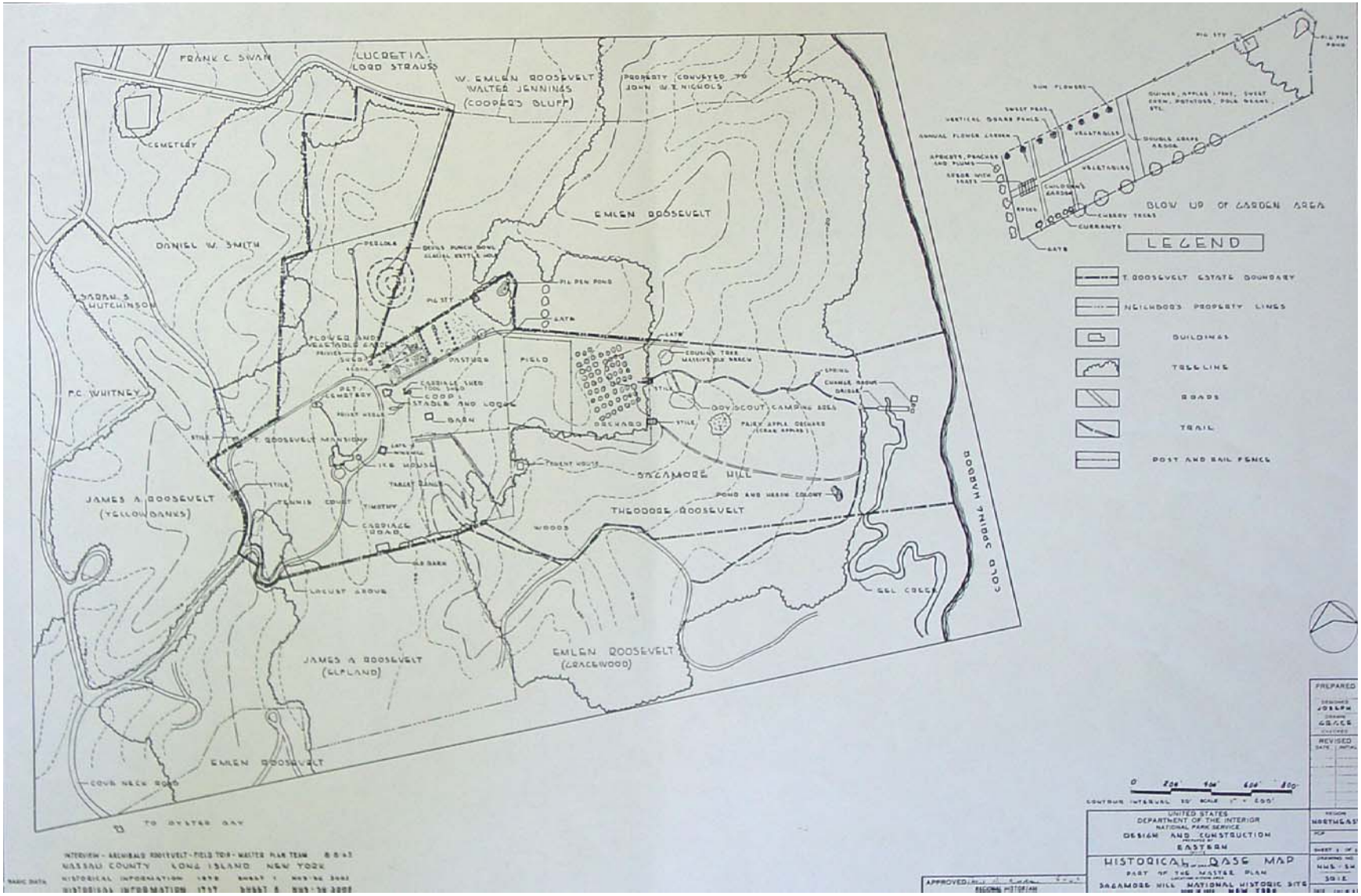

Figure 2. Historical Base Map, Sagamore Hill National Historic Site, 1963.

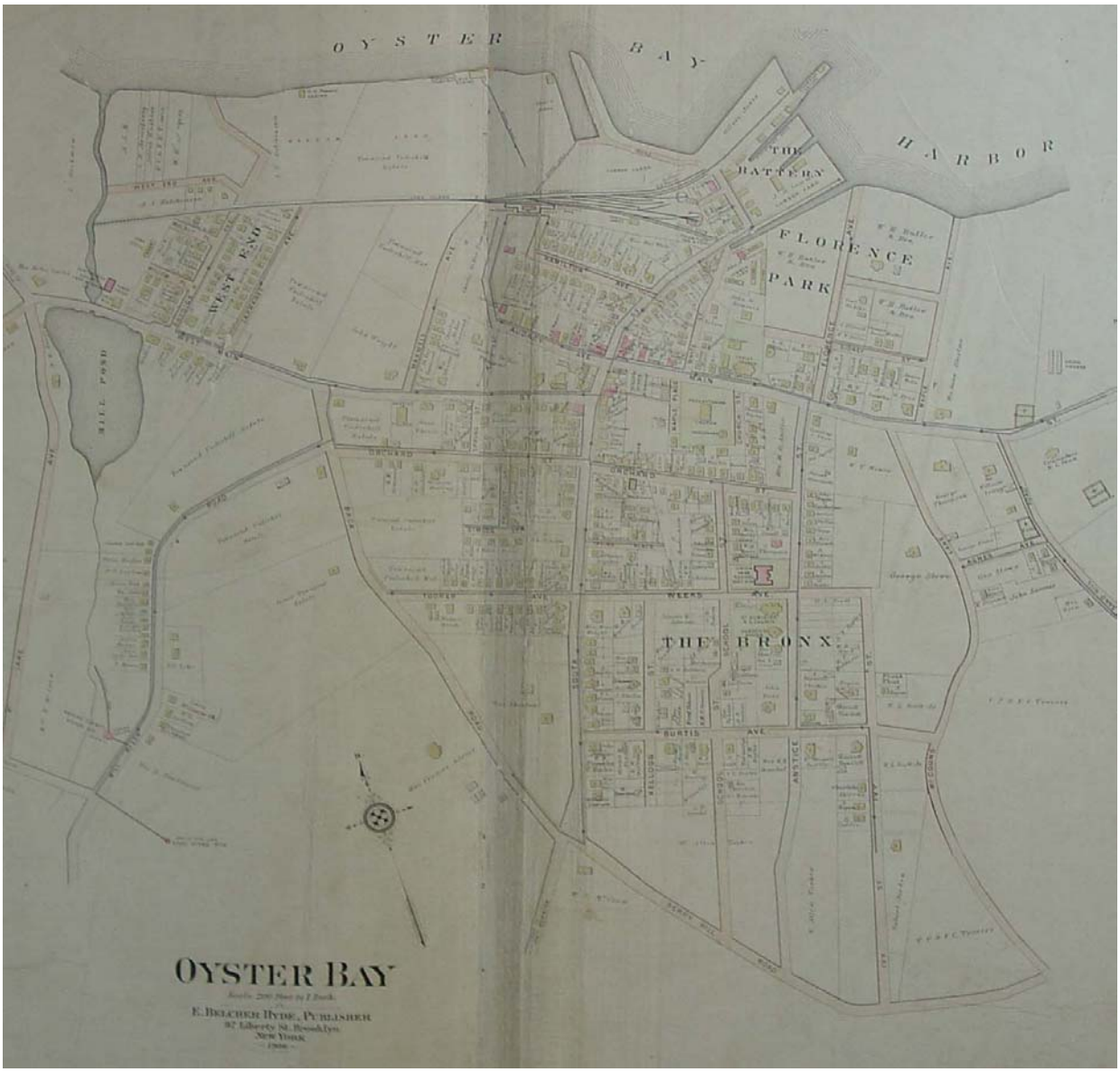

Figure 3. Oyster Bay, Nassau County, New York, 1906.

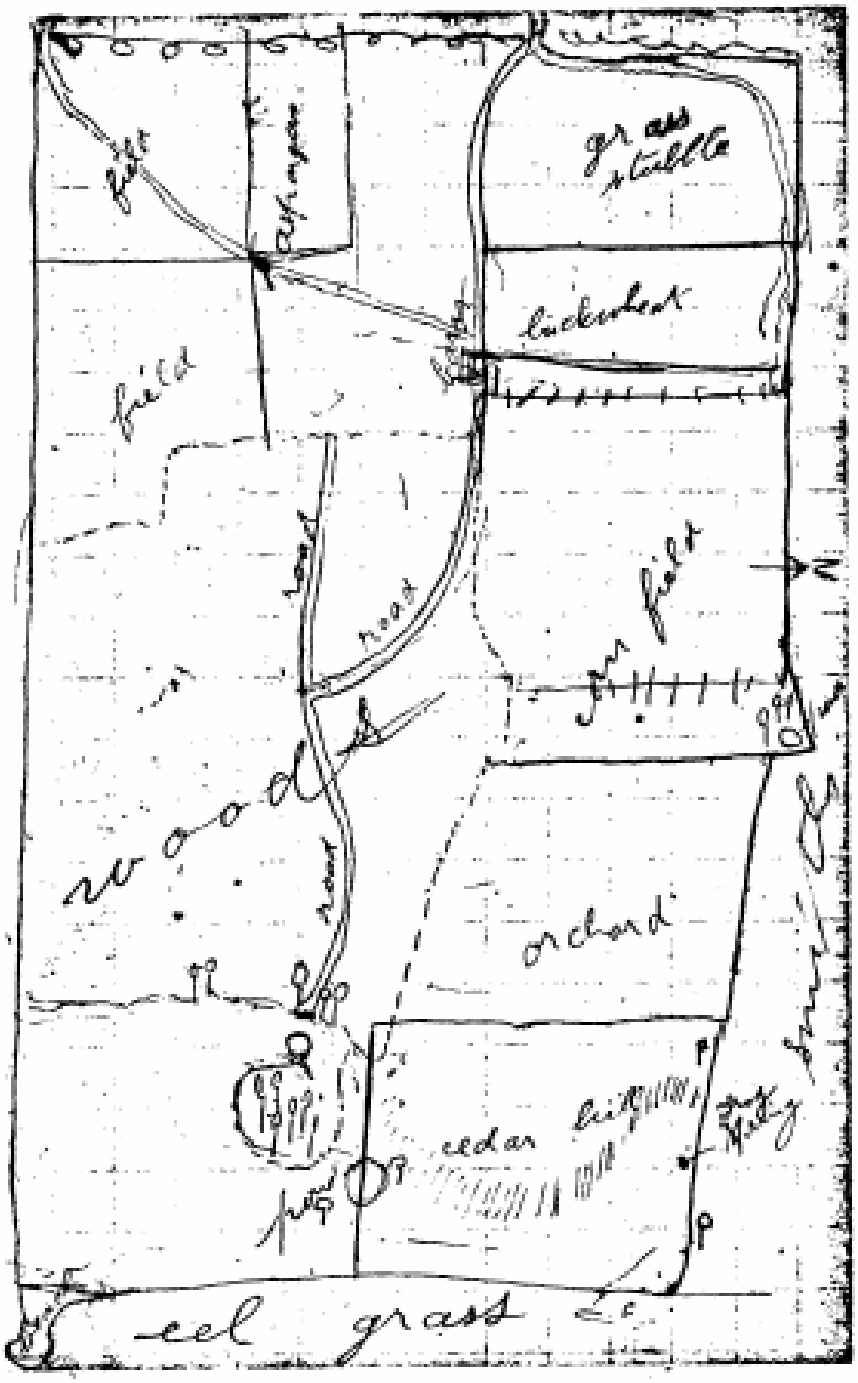

Figure 4. Sketched map of Sagamore Hill by Theodore Roosevelt, circa 1880.

Figure 5. The west elevation of the stable and lodge at Sagamore Hill, 1905.

Figure 6. Main house at Sagamore Hill, south elevation, ca. 1885.

Figure 7. Map of Cove Neck, Oyster Bay, New York, 1906, depicting property of Theodore Roosevelt.

Figure 8. The old barn at Sagamore Hill, prior to 1904.

Figure 9. Races at the old barn, with Theodore Roosevelt as official timer, prior to 1904.

CHRONOLOGY OF DEVELOPMENT AND USE

Construction

Planning for the New Barn began in 1904, the same year the old barn collapsed. In the fall of that year plans for the New Barn were submitted to the Roosevelts for review. On October 3, 1904, Edith K. Roosevelt wrote Noah Seaman, farmer and site foreman:

> Seaman:
>
> I have gone carefully over the plans of the barn since I saw you, and have decided that I do not care to build anything so elaborate. I hope to be able to keep Sagamore all my life, and as long as I have a stable, such a barn would be more than we need.
>
> I want a barn like the old barn without any cellar, for I know all that concrete must be what adds the expense, and the cows can be put on the same floor as the hay, with a couple of stalls for the farm horses beside them if there is room. After all, as you know, we never intend or expect to have a real farm, and when we come back to Oyster Bay to live, the carriage horses will have to serve for both purposes, just as they used to do.
>
> I should think Mailer could duplicate the old barn for very much less – from twelve to fourteen hundred dollars I suppose, though I do not know very much about such things. I think the plans are very good and not at all expensive for what they are, but the point is that I do not feel that we want or need such a structure.[26]

In that letter Mrs. Roosevelt made it clear that she felt the replacement barn, as planned, was too expensive and more complex than they needed. Further more, a barn which more closely copied the old barn was more desirable and suited to the current requirements. Since the old barn had been a part of recreational life at Sagamore Hill, perhaps Mrs. Roosevelt's appeal was not based solely on expense and function, but also on a desire to recreate that same feeling in the New Barn.

[26] Edith C. Roosevelt to Noah Seaman, October 3, 1904 (partial excerpt) Series 2, Volume 106- p. 447, TR Papers. LOC, HL, GDMD. Note: After her marriage to Theodore Roosevelt, Edith Kermit Carow went by Edith Kermit Roosevelt, however the index to the TR Papers use her maiden name, Carow, as her middle initial.

It is interesting to note that, according to Mrs. Roosevelt's letter, the Roosevelts did not "intend or expect to have a real farm." Theodore Roosevelt's sketch of the property when he bought it depicts a working farm with crops of buckwheat, corn, and asparagus, as well as an orchard, grazing fields, and the old barn (fig. 4).[27] During his tenure at Sagamore Hill, between 20 and 40 acres were maintained as cultivated fields, pastures, large flower and vegetable gardens, and an orchard.[28] Mrs. Roosevelt may not have considered it a "real farm," but Sagamore Hill had a very active agricultural component, which would have required a barn sufficient for the endeavors at the site.

The letter's reference to "Mailer" was probably referring to James K. Mailler, who lived in Oyster Bay at the time. A 1906 *Atlas of Nassau County* lists James Mailer (sic) residing on Tooker Avenue in Oyster Bay.[29] A local paper, *The East Norwich Enterprise*, made several references to James K. Mailler, contractor, during the period of 1904 – 1906.[30] In one reference the newspaper noted that Mailler was working on his new house on Tooker Avenue.[31] Though the spelling of his last name does differ, it is evident that the various references were to the same James Mailler, and that he was a contractor living in Oyster Bay during this period.

The letter from Mrs. Roosevelt indicated that Mailler was being considered as the contractor for the New Barn. In a subsequent letter to Seaman dated December 12, 1904, Mrs. Roosevelt mentions Mailler again:

> …I received your letter, and if Mailler is too busy perhaps you might employ some other carpenter to do the work, but I leave that entirely to you.[32]

Certainly Mailler was known to the Roosevelts. President Roosevelt referred to him in a letter to C. Grant La Farge concerning the addition of the North/Trophy Room to the main house, as follows:

> As you know, we were very much nonplussed at the figures. Judging from the amount the Lodges paid for their extension, we had not expected that the figures would be anything like as large. Would it be possible to have some other man, who might do the work cheaper, figure on them. How about that Oyster Bay builder, Mailer?[33]

It seems that the President's interest in hiring a local builder was driven primarily by a desire to reduce construction costs. Ultimately, John V. Schaefer, Jr. & Co. was hired by Heins & La Farge Architects to build the addition to the main house.[34]

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[27] Bellavia and Curry, p. 17.

[28] Bellavia and Curry, p. 19.

[29] *Atlas of Nassau County Long Island, N.Y.* (Brooklyn, NY: E. Belcher- Hyde, 1906), double page 15.

[30] *The East Norwich Enterprise,* East Norwich, Nassau County, New York. 1904 – 1907, Reel 1889 – 1907. Oyster Bay- East Norwich Public Library, Oyster Bay, NY.

[31] *The East Norwich Enterprise*, "About Town," August 5, 1905, p. 3.

[32] Edith C. Roosevelt to Noah Seaman, December 14, 1904 (partial excerpt). Series 2, Volume 106- page 483, TR Papers. LOC, HL, GDMD.

[33] Theodore Roosevelt to C. Grant LaFarge, January 27, 1905 (partial excerpt). Series 2, Vol. 54 – p. 22, Reel 337, TR Papers. LOC, HL, GDMD.

[34] C. Grant LaFarge to Theodore Roosevelt, August 9, 1905, with three enclosures, Series 1, Reel 58, TR Papers. LOC, HL, GDMD.

On February 11, 1905, an entry in *The East Norwich Enterprise*'s "About Town" section noted that "Contractor James K. Mailler has been repairing President Roosevelt's residence at Sagamore Hill."[35]

It is not known whether Mailler actually built the New Barn. Though this reference clearly indicates that Mailler worked at Sagamore Hill, it does not state the exact nature of the work in 1905. He may have been starting the New Barn at this time, or been working on some other project. Documents indicate that the barn was not completed until 1907, which would be a long period of construction if Mailler started it in 1905. However, a review of the historical documents mention no builders other than Schaefer & Co. and Mailler working at Sagamore Hill during this period, so it is likely that James K. Mailler did construct the barn.

Though planning had begun in 1904, the New Barn was not completed for three years. Perhaps Mailler was too busy, or the Roosevelts did not want to incur the expense of a new barn while paying for the addition to the house. The primary evidence supporting the construction date of 1907 for the New Barn is an account book entry by Mrs. Roosevelt and a letter from President Roosevelt's Secretary, William Loeb, Jr., Esq., to Douglas Robinson.

Edith K. Roosevelt kept the account books for Sagamore Hill from 1889 through 1917. A line item entry under "Plum(ber) & Car(penter)" in October 1907 for $2,265 may represent the payment for the New Barn.[36] Expenses for plumbing and carpentry repairs between 1904 and 1907 ranged from a few dollars to $400, and were typically closer to $200 (with the exception of the costs associated with the North Room addition, which were noted as such).[37] Therefore, a lump sum entry of $2,265 represents a large construction project, and based on documentary review, the New Barn was the only large structure built during that period. The account book entry also corresponds to the amount of insurance requested by William Loeb Jr. in a letter to Douglas Robinson, dated July 3, 1907:

> There has just been finished at Sagamore Hill a new barn, which Mrs. Roosevelt wishes you to insure at once for $2,500.00. The new barn is to take the place of the old hay barn, which has been abandoned, and upon which she does not believe there was any insurance.[38]

The letter clearly stated that the New Barn had just been finished, and the request for an insured value of $2,500 was similar to the amount noted in Mrs. Roosevelt's account book. Another entry in the account book in June 1907 for $267.85 may represent a down payment for construction of the barn, since it is approximately 10% of the insured value.[39] However, the entry does not specify that this carpentry expense was related to the barn construction. Certainly the letter establishes the completion date of the New Barn as July 1907 for an approximate sum of $2,500, and the account book entries support that evidence.

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[35] *The East Norwich Enterprise,* Vol. XXV, No. 24, "About Town," p. 3.

[36] Sagamore Hill Account Book, 1889- 1917, by Edith Kermit Roosevelt, 1907.

[37] Sagamore Hill Account Book, 1904 – 1907. Note: Several entries starting in October, 1905 are bracketed and noted as "N. Room." The amounts entered are consistent with the expenses statement submitted by Heins & LaFarge Architects in August 1905, for the North Room addition to the main house (see fn. 19).

[38] William Loeb, Jr., to Douglas Robinson, July 3, 1907. Series 2, Vol. 108 – p. 241, Reel 361, TR Papers. LOC, HL, GDMD.

[39] Sagamore Hill Account Book, 1889- 1917.

Once completed, the New Barn became part of the farming operation at Sagamore Hill. Its proximity to the gardens, pastures, and other structures within the core of the property actually provided a better location than that of the old barn for supporting the efforts of the farm.

Original Appearance

Constructed in 1907, the New Barn was situated approximately 420 feet east and slightly north of the main house, with its gable ends facing due east and west (figs. 10- 11). The siting of the New Barn placed it near the center of the Sagamore Hill estate and close to the stable and lodge and other outbuildings associated with the farming operation at the site.[40] The New Barn was a wood- frame structure which measured 32 feet wide by 42 feet long. The structure had a gambrel roof with a centered cupola for ventilation. In the tradition of the English style barn it was accessed through large sliding doors centered on the side wall elevations (north and south), and it had loft doors on the gable ends (east and west). The primary entrance appears to have been on the north elevation, which was prominent in historic photographs of the New Barn.

Although the cost was nearly double the amount Mrs. Roosevelt mentioned in her letter to Seaman, her desire to "duplicate the old barn" may have influenced the configuration of the New Barn. Certainly the location of the doorways on the side walls was similar to the old barn. While the interior configuration of the old barn is unknown, the location of the doorways would have influenced the organization of the interior bays, which appears to have been a central wagon- drive bay flanked by storage bays, as discussed previously. The New Barn was evidently built in that same configuration, based on the tradition of the English barn. The location of the primary doorways on the north and south side walls, and the extant framing, indicate that the basic plan was a three- bay barn, with a central wagon- drive bay accessed through the large doorways. Typically the central bay was flanked by a livestock, or tie- up, bay and a hay storage, or haymow, bay.[41] Mrs. Roosevelt's letter to Noah Seaman discusses having the hay and livestock on the same floor. The arrangement and size of the bays suggests that the east bay had a hayloft and the west bay was used for storage. The extant physical evidence and the documentary evidence support this basic configuration of the New Barn.

Exterior Elements

The New Barn was sited on a portion of the land that had a slight slope from north to south. The construction of the building took advantage of this contour to create a foundation for the structure and a crawlspace below the first level of the barn. The area below the first level was accessible from the south elevation of the barn, and appears to have been used for storage of farm equipment and/or as a depository for broken equipment, as depicted in an image from a 1923 home movie (fig. 12).

[40] Bellavia and Curry, p. 26.
[41] Hubka, p. 54.

The foundation of the New Barn was formed with poured concrete and extended along the entire length of the north, east, and west elevations. The south elevation at the foundation level was left mostly open; poured concrete walls 34 inches long extended out on both the east and west sides to form corner supports for the structure. The poured concrete forming the foundation walls consists of a very large aggregate, and was probably mixed with locally obtained sand and gravel with a lime component. (Mortar analysis was not performed as a part of this report.) Since the basement was only a crawlspace, the foundation did not have to be poured to the same depth as for a full basement, which partially addressed Mrs. Roosevelt's concern about the use of too much concrete.

The New Barn was clad with vertical siding. The siding was 8 inches wide and constructed with shiplap boards that had a half- inch overlap. The shiplap siding was attached with wire nails and was painted gray. A brief description of the New Barn appeared in the article "How Roosevelt Rests" in *Broadway Magazine*, September 1907: "To the right of you as you drive around the rear of the house is a freshly painted gray and green barn."[42] Paint analysis has confirmed that the earliest paint finish of the barn was a gray color, but the green mentioned in the article was not evident in the representative samples taken from original material (Appendix E.).

As mentioned previously, the north and south elevations had large openings in the central bay (figs. 10 - 12). The doorways spanned the full 12- foot width of the bay and were approximately 12 feet high. They were equipped with double doors that slid to either side on a track above the doorway. Due to the level of the grade on the north elevation, the doorway here served as the main entrance to the New Barn. At this entrance an earthen ramp was built up to the floor level. Historic photographs depicting this elevation show what appear to be concrete retaining walls at the sides of the ramp. The doorway on the south elevation was most likely used for ventilation and for shoveling out manure and/or hay to the grade below. (The drop in grade on the south side would have required a large ramp to access the opening with farm equipment or animals.) The west elevation, facing the main house, had a loft doorway centered within the roof gable. The doorway was 4 feet, 1½ inches wide and approximately 7 feet high. The upper portion of the doorway is extant in the attic above the living quarters, but evidence of the full size of the doorway is obscured by alterations (fig. 13). Based on photographic evidence, it does not appear that there were other openings on the west elevation.

Most evidence of openings on the east elevation was removed during later alterations. Based on extant building fabric, it appears that there was a large double doorway to the loft area. The remains of the doors here are visible from the interior of the barn (fig. 14). The loft doorway was approximately 14 feet above ground level and occupied an opening in the framing 8 feet, 2 ½ inches wide. The doors were evidently hinged, judging by extant bolts in their lower rails (fig. 15). The height of the doorway was difficult to ascertain from extant evidence, but it appears to have reached up to the upper rafters. These loft doors would have been used for access to the hay loft in the east bay of the New Barn. Historic photographs depict a hoisting mechanism attached to the end of the extended ridge pole, which would have facilitated storage activities in the hay loft.

[42] Bellavia and Curry, p. 42.

Of the evidence reviewed, the only other clue to original openings on the east elevation was contained in the historic photographs from ca. 1907 (figs. 10- 11). In those photographs, the view through the center doorway shows a multi- light sash apparently on the east elevation of the barn. (Six lights are visible in figure 10.) The sash depicted was most likely part of a window, but it could have been the upper section of a door. The opening was located toward the southeast corner of the structure. All physical evidence of this opening was removed during alterations. Based on the photographic evidence alone, it was not possible to determine the exact size and location of the opening.

The New Barn was built with a gambrel roof that was covered with wood shingles, fastened to skip sheathing attached to the rafters. The gambrel roof form had become popular in barn construction in the late 19th century, partly because it offered more volume for the hayloft.[43] A cupola approximately 4 feet square was centered on the roof. The cupola had wooden louvers on the sides and a hipped roof. Another 19th- century adaptation in barn building, the cupola served to ventilate the barn.[44] The gambrel roof was constructed with 14- inch eaves and a soffit, and a 6 ½- inch cornice along the eaves and the rakes. The east and west elevations had 26- inch cornice returns. The cornice molding was 4 inches wide and 3 inches deep with a cyma reversa and cavetto profile. The same molding was applied to the rakes of the gambrel roof. Metal half- round gutters that led to round metal downspouts in both corners were installed on the north and south elevations.

Interior Elements

Mrs. Roosevelt was explicit about not needing a basement in the New Barn, and it appears that her wishes were addressed to a certain extent. As described previously, the New Barn was sited on a natural north- south slope, and the contour of the land provided convenient access to the crawlspace below the building on the south side of the New Barn. The knee- wall concrete foundation was purposely left open on that side to allow access to the crawlspace. The crawlspace had a dirt floor and the grade within it sloped from north to south, following the natural contour of the land. There was approximately 4 feet of clearance between the grade and the sill of the barn.

The New Barn was constructed with three bays, a central bay flanked by one bay to the east and one bay to the west. Mrs. Roosevelt's letter to Noah Seaman discusses having the hay and livestock on the same floor. The arrangement and size of the bays suggests that the east bay was used for hay storage and the west bay was used for livestock.

The small herd of dairy cows depicted in the historic photographs was most likely housed in the New Barn, along with the carriage horses. The interior of the New Barn consisted of exposed framing. The floor for the first level was constructed with tongue- and- groove boards that were 7 3/8 inches wide and 1 5/8 inches thick. This same type of decking may have been used in the loft areas as well.

[43] Visser, p. 82.
[44] Visser, pp. 45- 46.

The central bay was approximately 12 feet wide and had large sliding doors on the north and south elevations. The bay was a wagon- drive bay, with main access through the north elevation doorway. Though the essential design was as a drive- through bay, the drop in grade on the south elevation suggests that the doors on that side of the barn were primarily used for ventilation.

The bay to the east of the central bay served as the storage and hayloft bay. This bay, like the central bay, was 12 feet wide. Open mortises on the interior posts indicate that the east bay had a loft that was 7 feet above the floor of the barn (see the subsequent section "Structural Elements"). This was a typical height for a hayloft, and allowed for easy access between the first level and the loft. The location of the hayloft is further confirmed by the hoisting mechanism and track, which was attached to the bottom of the ridge pole and extended beyond the loft doorway in the east elevation. In a typical farming application, hay carriers attached to the track would have been used for hoisting hay into the loft area. Further evidence of the configuration of the east bay has been obscured by alterations.

The bay to the west of the central bay was most likely the livestock or tie- up bay. Measuring approximately 18 feet wide, the west bay was slightly larger than the other two. A typical three-bay barn would have had a loft area over the livestock bay.[45] The existence of the loft doorway on the west elevation indicates that such a loft was originally part of the New Barn. A more accurate understanding of the west bay could not be determined from the available evidence.

Structural Elements

The basic framing plan of the New Barn was designed to accommodate the three- bay configuration. Based on visible extant framing and observations by Exhibit Specialists during stabilization of the New Barn in 2002,[46] the construction of the New Barn does not appear to have followed traditional timber- framing techniques, but instead combined timber- framing techniques with balloon framing. Features of the extant framing were recorded during the investigation of the New Barn (figs. 16 - 21), and should be referred to for further illustration of the unique framing system of the structure. The frame utilized both timbers and lumber of smaller dimensions, all of which were rough- sawn with a circular saw. A number of different fastening systems were used, ranging from traditional mortise- and- tenon joinery to lag bolts and spikes.

Along the north, east, and west elevations, the concrete foundation formed the support for the structure above. Two intermediate beams measuring 8 by 10 inches were set 14 feet apart on center. These extended from the north wall of the foundation to the south elevation of the barn, where they were supported by rough- hewn posts (fig. 16). Interestingly, the intermediate beams were placed evenly east- to- west, such that they did not align with the barn bays above.

[45] Hubka, p. 54.

[46] Jeff Finch, *Completion Report, Gray "New Barn" Gambrel Barn Stabilization* (Boston: U.S. Department of the Interior, National Park Service, Northeast Cultural Resources Center, October 3, 2002).

Though limited access and later materials obstructed investigation of most of the sills, observations during the stabilization project did note that 4- by 8- inch sills were extant in 2002, and they may have been used in the construction of the barn.[47] The sills were laid flat on the concrete foundation and were half- lapped at the corners. The 4 by 8 sills and half- lap joinery were consistent with other extant framing in the barn, especially the plate, and were most likely from the original construction. Along the north and south sills, 2- by 4- inch members set on edge were installed on the inside edge of the sills to act as floor nailers.[48] Blocking was installed between the top of the intermediate beam and the sill to match the height of the foundation and make the sill level.

The framing for the first story consisted of 2- by 12- inch joists running east- west. Starting from the east elevation, the 2 by 12s ran to the first intermediate beam; another 2 by 12 joist was staggered next to it and spanned the two intermediate beams; and another joist then ran from the second intermediate beam to the west foundation wall (fig. 16). The joists were notched at the foundation walls and the sills, as well as at the intermediate beams, and were fastened with nails to the sills and intermediate beams. The spacing between the joists varied from 18 ½ inches to 20 ¼ inches.

The primary structure of the New Barn above the sill level was framed with large timbers. As in traditional timber framing, the two middle bents (framing elements) were constructed with heavy timbers. Of these two bents, the east bent is extant and does not appear to have been altered (fig. 17). The framing measurements were taken from that bent and are considered to be typical. The east bent was constructed with posts on the north and south sides, which measured 7 ¾ inches by 8 ¾ inches by 15 feet tall. At a height of 13 feet 9 inches above the sill leve, a beam measuring 6 3/8 inches by 8 3/8 inches beam spanned the two posts. The beam had tenons on either end that fit into mortises in the posts and were fastened with pegs. The bent was supported by two intermediate 6 ¼- inch square posts that were toe- nailed into the beam. These two bents formed the central bay of the barn.

The gable ends of the barn were constructed with four large posts that extended from the sill to the plate (figs. 18- 19). Again based on the extant framing in the east end of the barn, the corner posts measured 7 ¾ inches by 8 ¾ inches; of the two intermediate posts, the north one measured 7 ¾ inches by 8 ¾ inches, while the south one measured 4 inches by 6 inches. A plate measuring 4 by 8 inches was attached to the tops of the posts. Bridging beams ran from the two middle bents to the plates on the east and west elevations (fig. 18). Similar beams bridged the two bents as well. The beams measured 3 7/8 inches by 7 7/8 inches, with slight variations, and were attached to the beams and the plates with 1- inch- thick threaded lag bolts. The extant framing did not reveal evidence of other large framing timbers in the structural elements of the barn.

Between the large timbers, the exterior walls were framed with 2- by 6- inch studs. Portions of the extant framing were visible in the attic of the barn (figs. 18 - 21). The 2 by 6 framing appears to have extended from the sill level to the plate, with intermediate 2 by 6 blocking and 2 by 6 bracing. This method of framing resembled balloon framing, which by the end of the 19th century was being employed in barn construction.[49]

[47] Finch, p. 5.
[48] Finch, p. 5.
[49] Visser, pp. 22 – 23.

A plate measuring 4 by 8 inches was attached to the top of the wall framing. At each corner the adjoining plates were half- lapped and fastened with large spikes to the posts. The pattern of the half- lap joints alternates, which indicates that the plate was installed after the walls were framed. The 2 by 6 studs were fastened to the plate with toe- nailed wire nails. The plates were not continuous members, but rather were constructed from 20- foot pieces of lumber that were joined together with half- lap joints to make the necessary lengths (32 feet on the east and west elevations, and 42 feet on the north and south elevations).

A gambrel roof with a peak approximately 32 feet above the sill level was constructed to cover the barn. Like the wall framing for the New Barn, the gambrel roof was framed with both conventional- sized lumber and larger members. The primary roof structure was constructed with 2- by 8- inch common rafters and 4- by 6- inch purlins (fig. 17). The lower rafters were notched at the plate and extended beyond the plate to form the heavy eave and soffit. (In some cases, extensions were added to the rafter tails to form the eave.) These rafters extended up to a 4 by 6 purlin, were joined to the purlin with a bird- mouth notch, and fastened with wire nails. A 2- by 6- inch plate was fastened to the top of the 4 by 6 purlin, and the upper 2 by 8 rafters extended from there to a ridge board measuring 2 by 12 inches. Support posts measuring 3 ¾ inches by 6 inches were attached to the beams of the two bents, and ran at an angle up to the purlin. The support posts were notched at the purlin and were fastened with wire nails. Interestingly, approximately 8 feet from the east gable end, the 2- by 12- inch ridge board transitions to a 4- by 6- inch ridge beam. The 4- by- 6 beam ran from this point to the exterior of the east gable and extended beyond that, carrying the track and hoisting mechanism. Presumably the change to a heavier ridge member was to provide extra support for the hoisting mechanism.

Despite what may seem to be a framing system "cobbled together," all of the extant framing was apparently from the original period of construction. The overall framing of the New Barn appears to have been a combination of balloon and timber framing.

Use During the Roosevelt Residency

The storage of hay in the old barn was documented by Theodore Roosevelt in his letters and autobiography. The instability of the old barn as it began to give way would have necessitated the construction of another structure to store hay and crops, as well as farm equipment and livestock. Mrs. Roosevelt's letter to Noah Seaman alludes to the use of the New Barn for both storage of hay and animals. Certainly the operation of the farm would have been enhanced by the presence of the New Barn near the center of the property.

The construction of the barn as a three- bay structure would have dictated the interior use. The large doorway and earthen ramp on the north elevation are a clear indication of a central wagon- drive bay, which was flanked by two storage bays. As discussed previously, the evidence of original framing and the location of the large loft doorways on the east elevation suggest that this was the location of the hay loft or hay mow. Though most of the visible evidence of the farming of the west bay is obscured by later alterations, in a typical three- bay barn arrangement

the central bay was flanked by a haymow bay (the east bay) and a livestock bay.[50] Therefore, the west bay of the New Barn was most likely the livestock bay.

Two ca.- 1907 photographs of the New Barn with cows in the foreground depict the use of the area around the barn as pasture for the livestock (figs. 10- 11). The area around the barn was fenced with post- and- rail fencing, and would have contained the small herd kept at Sagamore Hill.[51] The fencing can be seen in the ca.- 1907 photographs, as well as in later images. The three cows shown with Noah Seaman and a farm hand in front of the New Barn identified by Archibald Roosevelt as "Buttercup, Daisy, and Clover," would have grazed in the pasture near the New Barn.

Upon Theodore Roosevelt's death in 1919, an extensive inventory of the property and main house were taken for the estate. The inventory included outbuildings, and the following was recorded for the New Barn:[52]

BARN	
Pair of Gray Horses About 16 hands high 10 and 11 years old	$ 300.00
Holstein Cow	150.00
Guernsey Cow	200.00
Guernsey Cow	175.00
Guernsey Heifer One year	75.00
Guernsey Calf	40.00
Station Wagon Shafts only Rubber tires	25.00
Hay Tettor	15.00
Fodder Cutter	5.00
Le Roy Horse Cultivator	8.00

[50] Vlach, p. 17. Also see: Visser, pp. 5- 6, and Hubka, p. 54. Note: Though early barn construction and designs were regional and influenced by various European progenitors, by the late19th century the availability of pattern books and publications on farming and agriculture, as well as the advances in building technologies, were exerting more influence on farm buildings. Barns built in the early 20th century would exhibit some features of the older barns adapted to the requirements of the farms of that era (see Vlach, p. 21).

[51] Bellavia and Curry, p. 93.

[52] Wilshin, Vol. II, pp. 77 – 78.

Planet Jr. Horse Cultivator	8.00
Wood House Corn Seller	5.00
Two Horse Mowing Machine	15.00
Two Horse Plow	10.00
Two Single Horse Plows	10.00
Caldwell Horse Lawn Mower 26 inch blade	50.00
Two Drag Tooth Harrows	10.00
Hay Rake Iron frame and wheels	15.00
Two Horse Sod Cutter	15.00
Two Horse Farm Sleigh	10.00
Two Round Bottom Row Boats	15.00
Water Barrel Iron Wheels	5.00
	$1,161.00

The inventory demonstrates that the barn was to house livestock, as well as to store a significant amount of farm equipment during the Theodore Roosevelt's lifetime. It is possible that some the equipment was stored in the crawlspace area at the basement level. Indeed, a harrow and some other equipment are extant in that space.

It is interesting to note that Peter Henderson and Company, New York, NY, used the main house at Sagamore Hill for an advertisement that appeared in *Country Life in America* in April 1902 (fig. 22).[53] The ad depicts horse- drawn lawn equipment (perhaps one of those listed in the inventory) in the foreground, with the stately residence at Sagamore Hill in the background. It might be presumed that President Roosevelt, or possibly his foreman Noah Seaman, purchased some of the equipment that was stored in the barn at Henderson's. It appears that the company took advantage of Roosevelt's patronage, or perhaps took liberty with the well- known image of the "Summer White House," to promote its business.

[53] *Country Life in America*, April 1902, Vol. CV. Sagamore Hill (SAHI) NHS, *Cultural Landscape Report,* Research Notes, Box 1, Folder 30, Newspaper and Magazine Clippings.

A photograph of the farmyard, which is undated but most likely dates from the 1920s, depicts the various outbuildings with the New Barn in the background on the right (fig. 23).[54] The barn does not appear to be altered from the ca.- 1907 photographs; the cupola is still intact, and the structure appears to be the same. A corn crib can be seen near the north elevation of the barn. Though the distance of the camera from the barn, and the poor quality of the photograph, limit the amount of information available, the photograph does show the working farmyard during this period and the relationship between the buildings.

A home movie taken in 1923 by the TRA depicted the continued agricultural usage of the New Barn and the surrounding pasture (fig. 12). This film footage provided the only images of the south elevation of the New Barn prior to any alterations. The image illustrated the centered side- wall doorway, as well as the open foundation on the south elevation. In that film the corn crib was visible at the northwest corner of the barn, and some equipment was seen to be stored under the barn. The fence at the time was a post- and- rail fence with four rails, and livestock grazed within the fenced- in area southwest of the barn. The film provided a snapshot of the New Barn and the use of the pasture during that period.

From the time of its completion in 1907 through the tenure of Theodore Roosevelt, the New Barn served as one of the primary farm structures used for housing livestock and storing crops. After Roosevelt's death, Sagamore Hill remained a working farm from 1919 through the death of Edith K. Roosevelt in 1948. Though the farming operations may have waned during that period, the pastures, agricultural fields, orchard, and gardens were maintained during most of that period.[55] For a large portion of that time, the New Barn continued to function as it had for the previous 22 years.

The stable and lodge burned in July 1944, toward the end of Mrs. Roosevelt's oversight of Sagamore Hill. After the fire, the New Barn was altered to serve as a residence and garage, to accommodate displaced caretaker Valenty Mazur and his family, and to house the estate's automobiles.[56]

[54] The photograph was part of SAHI Accession #38, which was given by Robert Gillespie, Jr., to SAHI NHS in 1975. Gillespie's father, Robert Gillespie, Sr., worked at Sagamore Hill from 1914 to 1943. It is presumed that the photographs were taken during that period, and based on other photographs in the collection, this image appears to be from circa 1920.

[55] Bellavia and Curry, p. 107.

[56] Bellavia and Curry, p. 112.

Figure 10. New Barn, north elevation with Noah Seaman (right), farm hand, and cows "Buttercup, Daisy, and Clover," ca. 1907.

Figure 11. New Barn, north elevation with cows in foreground; note fencing to the left/east of the barn, ca. 1907.

Figure 12. New Barn, south elevation, still image from 1923 home movie by the Theodore Roosevelt Association.

Figure 13. New Barn, west gable end, view from interior, showing upper portion of extant loft door (2005).

Figure 14. New Barn, east- elevation loft door, view from interior of barn attic (2005).

Figure 15. New Barn, east- elevation loft door, lower rail depicting extant fasteners for strap hinge, view from interior of barn attic (2005).

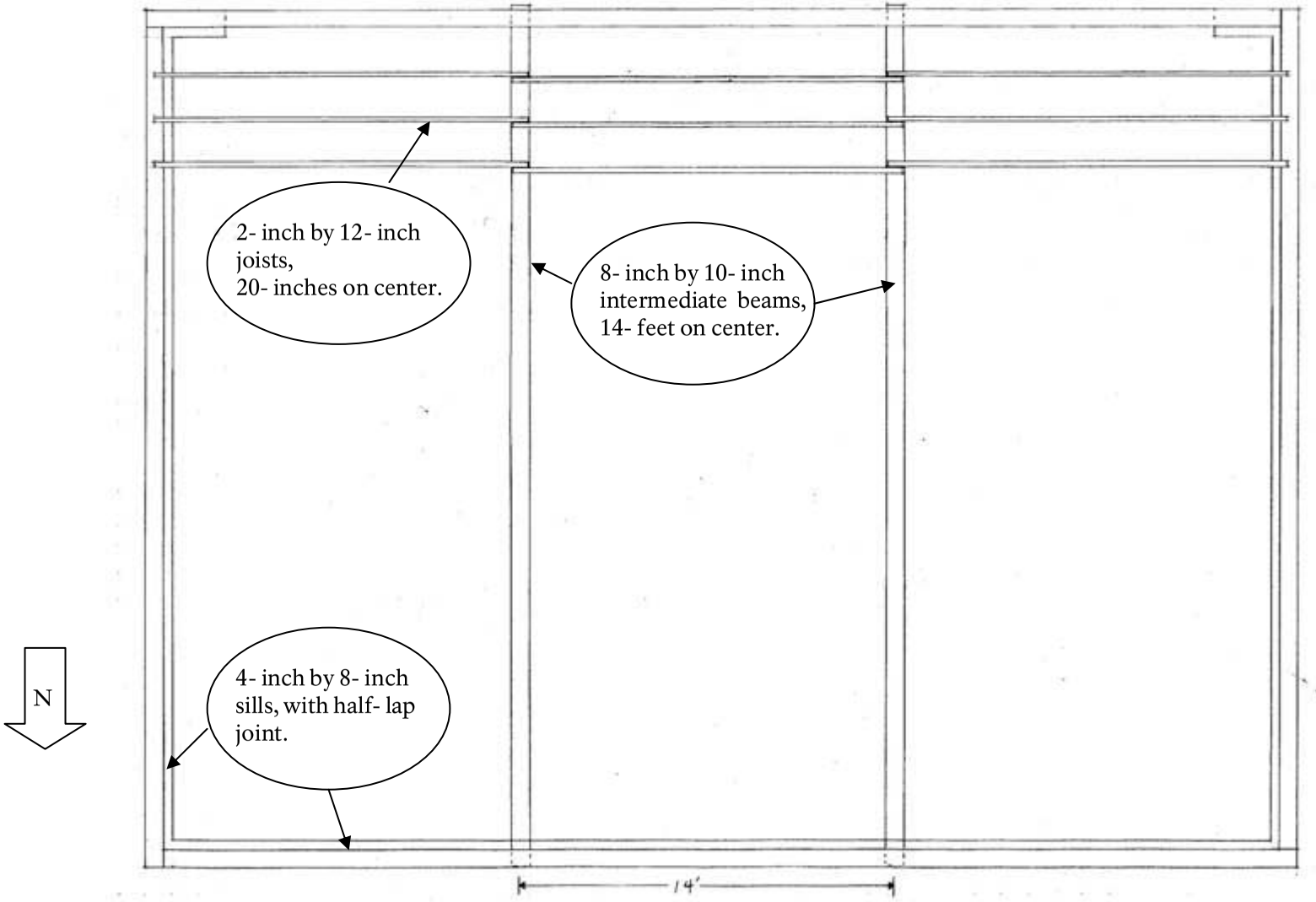

Figure 16. Schematic plan of New Barn basement framing, depicting foundation, summer beams, sills and typical joist construction, not to scale, drawn by James Lee, September, 2005.

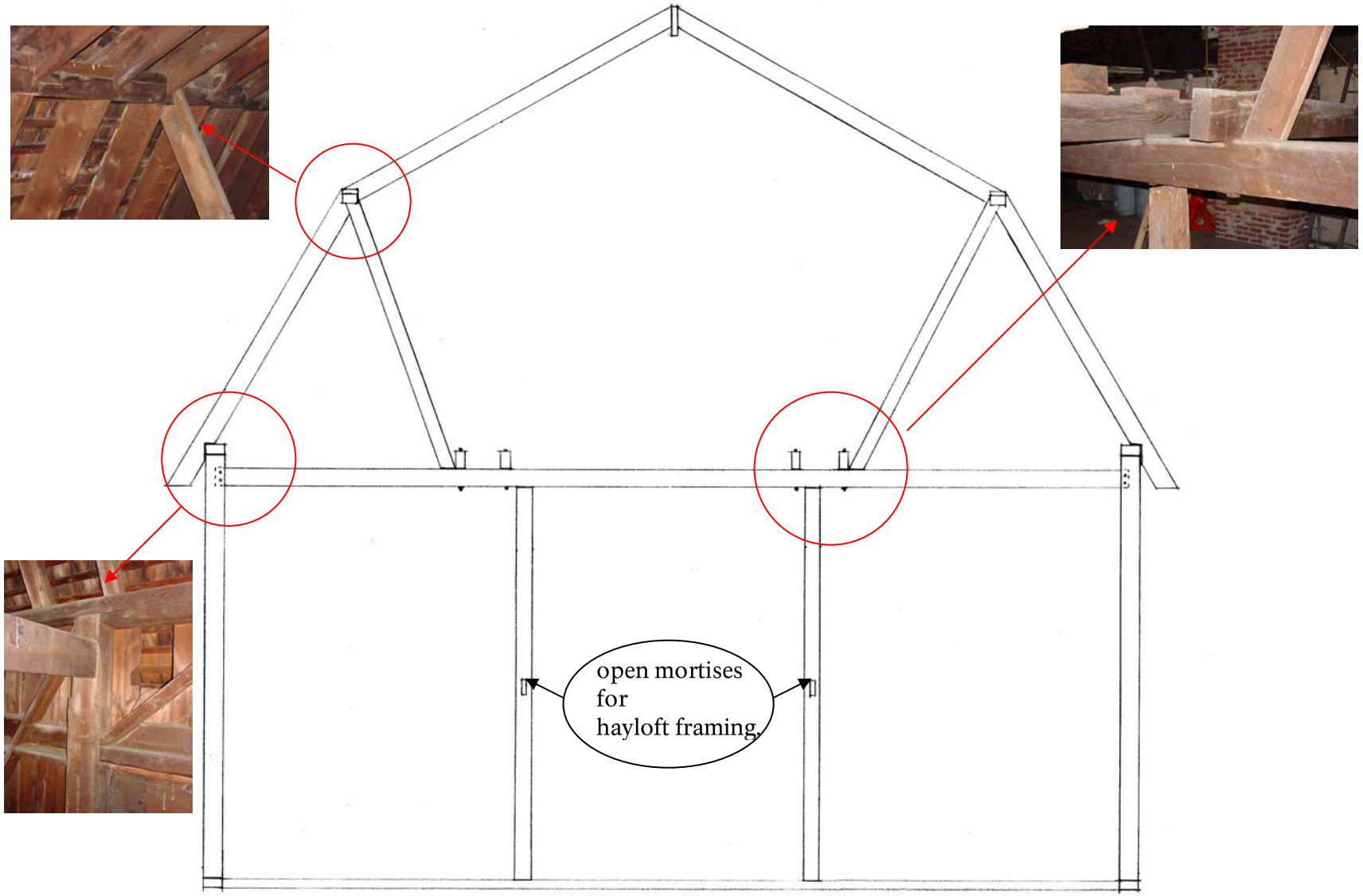

Figure 17. New Barn, east framing bent, depicting large timbers and typical roof construction and joinery (not to scale, 2005). The east bent is typical of the two middle bents, which define the central bay of the three- bay barn.

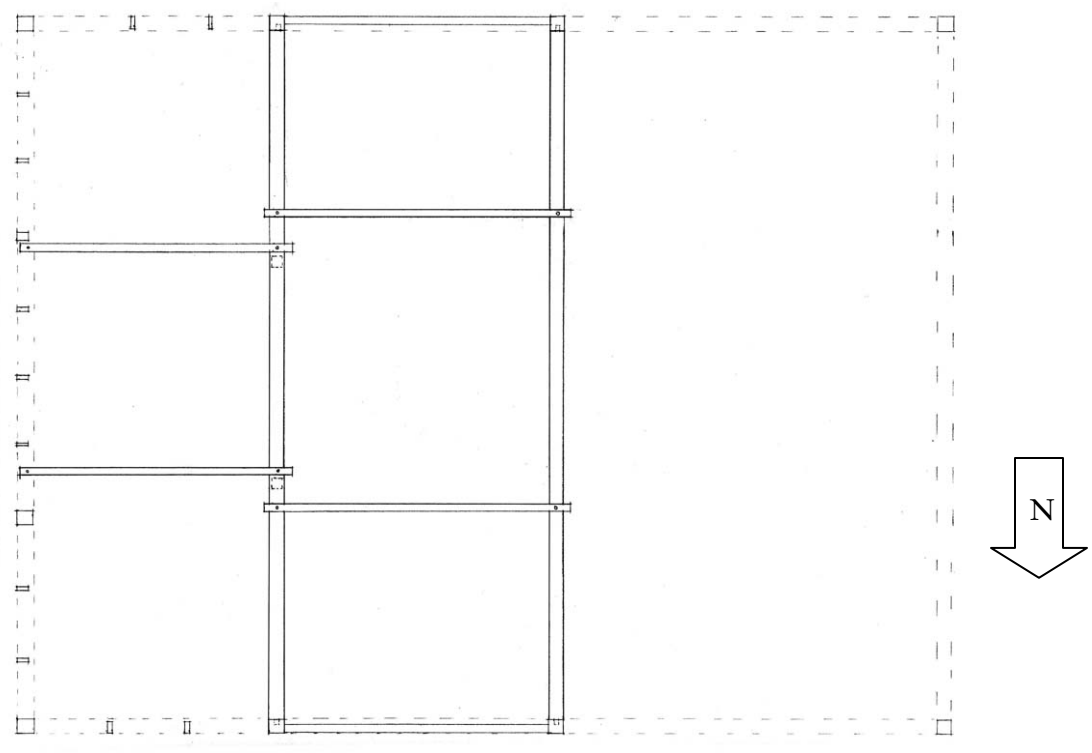

Figure 18. New Barn, plan view of framing illustrating two middle bents, bridging beams, timber posts, and 2 by 6 studs, based on visible elements (not to scale, 2005.

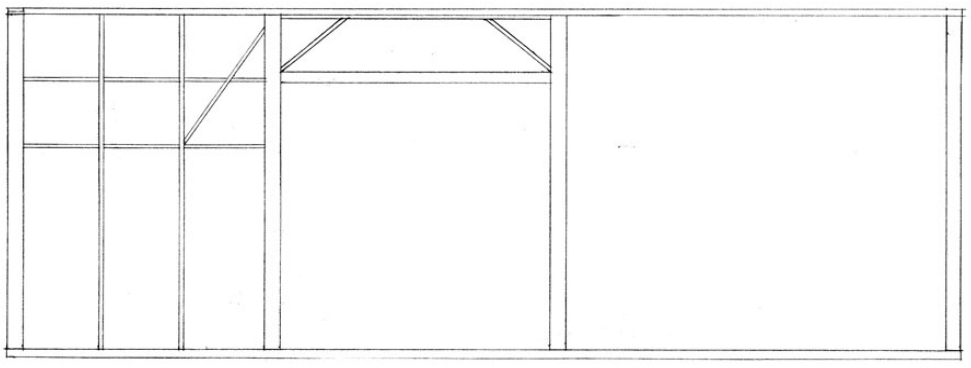

Figure 19. New Barn, north elevation framing depicting timber posts, 2 by 6 studs, and 4 by 8 plate and sill, as well as framing of central bay, based on visible elements (not to scale, 2005).

Figure 20. New Barn, east- elevation framing, interior view of intermediate post, plate, bridging beam (attached to plate), and 2 by 6 framing, 2005.

Figure 21. New Barn, north- elevation framing, interior view of northeast section showing 2 by 6 studs, blocking and bracing, plate, and corner post (2005).

Figure 22. Advertisement for Peter Henderson & Co., depicting horse-drawn lawn equipment, Sagamore Hill in background, April 1902.

Figure 23. Farmyard at Sagamore Hill with New Barn on right, north and west elevations, ca. 1920.

Alterations

Circa 1947

The New Barn remained an important part of the farming operation at Sagamore Hill through the 1940s. Based on the physical and documentary evidence reviewed, it is apparent that, with the exception of exterior painting, the barn remained unaltered during that period.

The fire that destroyed the stable and lodge was discovered by caretaker Valenty Mazur early Wednesday morning, July 5, 1944. The fire originated in the stable portion of the building, which was being used to store automobiles, and quickly engulfed the entire building, including the Mazurs' living quarters. The stable and lodge were a total loss. In all, the fire caused an estimated $30,000 worth of damage to the buildings and automobiles.[57] "Plans for reconstructing the burned- out buildings" were considered, but ultimately the New Barn was converted into the garage for the estate and caretaker's residence.[58]

In order to accommodate its new use the east end of the New Barn became the three- car garage, and the west end of the barn was converted into a two- story residence. The documents reviewed indicate that the conversion of the barn may have taken place in two stages.

On August 1, 1944, George W. Knettel, Contractor and Builder, billed "Mrs. Theodore Roosevelt" for work at Sagamore Hill (Appendix C). The bill clearly itemized carpentry labor on July 31 and August 1 for a total of 16 hours "Putting up partitions in barn for cars".[59] The bill details other work performed at Sagamore Hill and lists materials used. Review of the labor and materials itemized on the bill from Knettel indicates that only the partition between the garage area and the residence was constructed at that time. The items would not have been sufficient to construct the entire residence.

The conversion of the west end of the barn into living quarters appears to have been done after the partitioning of the barn. The documentation indicates that the New Barn was established as the "Superintendent's Quarters and Garage" by 1948.[60] Oral history and NPS records indicate that the residence was built by the contractors Schreiner & Taylor Builders, Bayville, NY, in 1947.[61] While there is evidence that Schreiner and Taylor did some work at Sagamore Hill for the TRA in 1953, no further documentation of the conversion of the west end of the New Barn to a residence was discovered in the materials reviewed. However, it was certainly built between 1944 and 1948, which fits with the approximate date of 1947 for the final conversion.

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[57] *Oyster Bay Guardian*, Friday, July 7, 1944, Vol. 45 No. 22. Research Room Microfilm, Oyster Bay Public Library, Oyster Bay, NY.

[58] Sylvia Jukes Morris, *Edith Kermit Roosevelt, Portrait of a First Lady* (New York: Coward, McGann, & Geoghegan, Inc., 1980), p. 511.

[59] George W. Knettel to Edith K. Roosevelt, August 1, 1944. Edith K. Roosevelt Papers 1781- 1948 (EKR Papers), II. Financial, E. Bills, Box 14, Folder 13, Sagamore Hill NHS 11110.

[60] Philip H. Brady to Wm. M. Cruikshank, April 16, 1948. TRA, HSC, SAHI – 9800, Box 8, Folder 5, Cruikshank, William M., 1948 – 1953.

[61] "Barn (quarters), Bldg. No. 4, Sagamore Hill NHS, Individual Building Data." U.S. Department of the Interior, National Park Service, January 1, 1969, revised October 15, 1975.

The primary documentary evidence for the appearance of the New Barn after the conversion was a June 1950 inspection and survey performed by C.N. Lang of the Great American Insurance Agency, which included a map of Sagamore Hill and a photograph of the New Barn (figs. 24- 25 and Appendix B).[62] Extant physical evidence was used to confirm alterations and augment documentary evidence. Schematic floor plans of the existing structure and drawings by NPS historical architect Stephen Pisani accompany this report (Appendix D), and should be referenced during the following discussion .

Exterior Alterations

The basic footprint of the New Barn was kept intact during the ca.- 1947 alterations. The only appendages to the main structure were an entry porch on the north elevation and a porch on the south elevation. The north- elevation entry porch was built on a concrete slab that measured 4 feet 6 inches wide by 6 feet 3 inches long; it was 9 inches above grade, with one 3- inch concrete- slab step. It was an open structure with a shed roof that was supported by corner posts. Physical evidence suggests that a railing and balustrade spanned between the posts and the exterior wall of the barn. A ca.- 1975 photograph depicts this balustrade with straight rails (fig. 34), but since the balustrade has been replaced, the exact configuration at the time of construction is not known. The gable ends of the shed roof were covered with clapboards. The porch ceiling was constructed with 3 ½ - inch beaded boards. This porch led to the front entry of the new residence.

An open porch was also added to the south elevation of the New Barn. Situated at the southwest corner of the barn, the porch measured 18 feet 5 inches by 7 feet (fig. 24). The south- elevation porch was constructed with a concrete- block foundation, which was topped with three courses of brick supporting the porch structure above (see subsequent discussions on foundation and interior alterations). The south porch was an open structure constructed with three posts that supported a low pitched roof. The posts were cased with plain boards and had a 6- inch base with a quarter- round molding. At the top of the cased post was a plain molding below the porch cornice. A balustrade with diagonal crossed ("X") balusters and plain board railing spanned between the posts, as well as between the posts and exterior wall. A squat version of the same balustrade was built on the roof of the porch. The porch was accessed by a doorway on the south elevation of the barn, and steps on the west side of the porch led to the side yard. Though screens were not apparent in the 1950 photograph, they do appear in the 1965 photograph, and may have been part of the porch when it was added.

The conversion of the New Barn to a residence and garage necessitated a number of exterior changes. One requirement was enclosing the south- elevation foundation and the crawlspace. This was accomplished via the construction of a concrete block wall that ran from below grade to the sill level along the south elevation. The new foundation had an access doorway to the crawlspace that measured 2 feet 7 inches by 3 feet, with a door constructed of tongue- and-groove boards (fig. 26). In order to accommodate the existing structure, the concrete block foundation was built around the easternmost intermediate beam, and the end of the beam was left exposed on the exterior of the foundation.

[62] Great American Insurance Co., June 5, 1950. SAHI NHS Archives, SAHI – 9800, TRA, Box 5, Folder 2, Administrative Records 1880 – 1978.

The foundation for the south porch abutted the new foundation 24 feet from the southeast corner of the barn. The porch foundation, also of concrete block, measured 7 feet wide by 18 feet 5 inches long. The basement below the porch extended partially under the main structure (see the subsequent section on interior alterations). The south elevation of the porch foundation had a doorway to the basement and a single window opening measuring 2 feet 6 ½ inches by 1 foot 5 ½ inches. At the time, the basement doorway was accessed through a bulkhead that contained four concrete steps down to a concrete slab landing.

Below grade, the sides of the bulkhead were constructed with concrete blocks parged with cement. After the additions to the foundation were complete, all exposed foundation surfaces, including the poured concrete from the original construction, were covered with a sand-colored cementitious parging to create a uniform appearance.

A ramp was constructed at the foundation level on the east elevation to provide access to the garage doors. The ramp had concrete retaining walls; the wall on the south elevation was built flush with the foundation and finished to blend with the foundation wall. As depicted in the 1950 photograph and noted the in 1950 survey of the property, the ramp was constructed with poured concrete, which is no longer extant.

The conversion of the New Barn to a residence included the alteration of the siding. The builders covered the vertical- board barn siding with horizontal clapboards, leaving the vertical siding in place to act as sheathing. The clapboards were spaced with a 7 ½- inch reveal and were mitered at the corners (the spacing varied to as much as an 8- inch reveal, but the average was 7½ inches). A quarter- round and cavetto molding was applied at the juncture of the horizontal siding and the soffit. Paint analysis determined that the earliest finish on the clapboards was a gray color. The addition of the clapboards created a tighter building, and reflected the change in use from a barn to a residence.

The creation of a garage and living quarters within the New Barn also necessitated a change in the openings of the building. The arrangement of the living quarters in the west end of the barn and the garage in the east end certainly dictated some of the new openings.

The north elevation (fig. 27) had a small window opening for the garage (W101) that measured 2 feet by 3 feet 1 ¼ inches, and was equipped with double- hung, one- over- one sashes. The entrance to the residence was through a doorway on that elevation (D101) accessible from the porch described previously. A second small window opening, which measured 2 feet wide by 3 feet 7 ¼ inches high with double- hung, one- over- one sashes (W102), served the kitchen (Room 102) of the living quarters. The windows on this elevation were built with 1 ½- inch sills and trimmed with 4 ½- inch plain board casings with beveled headers.

The west elevation of the New Barn, which prior to ca. 1947 had only one loft doorway, was altered to suit the needs of the living quarters. This elevation provided the largest expanse for openings into the new residence (fig. 28 and Appendix D, Drawing # A3). At the first- story level two sets of triple windows were installed (W103 and W104). The overall opening for each set of windows was 8 feet 1 ¼ inches wide by 5 feet 3 inches high. The two outside windows of each set were 2 feet 4 inches wide by 5 feet 3 inches high, and held double- hung, one- over- one sashes. The middle window in each set was wider, measuring 2 feet 6 inches across. The individual windows were separated by 5 ½- inch mullions, and the entire triple set of windows was built with a continuous 1 ½- inch sill and trimmed with 4 ½- inch plain board casings with

beveled headers. A cyma- reversa molding that measured half an inch high and three- quarters of an inch deep was installed under the sill of both sets of windows. Paint analysis indicates that these moldings were part of the ca.- 1947 additions, but they were only extant under these two openings.

The second story of the west elevation was altered to provide window openings for two bedrooms and a bathroom. Each bedroom had a set of paired windows (W201 and W203). The window openings were 5 feet 4 ½ inches wide by 4 feet 7 ½ inches high; they held two double-hung, one- over- one sashes. The individual windows within each set measured 2 feet 6 inches wide by 4 feet 7 ½ inches high, and were separated by 4 ½- inch mullions. The bathroom window measured 2 feet by 3 feet 1¼ inches, and was equipped with double- hung, one- over-one sashes. All the windows at the second- story level were built with 1 ½- inch sills and trimmed with 4 ½- inch plain board casings with beveled headers. An arched opening was located near the roof peak on this elevation for ventilating the attic space.

The south elevation's first story received two window openings and a doorway. One window opening at the southwest end of the barn housed a set of paired windows (W105) that served the living room (Room 103). The window opening measured 5 feet 5 ¾ inches wide by 5 feet 3 inches high, and held two double- hung, one- over- one sashes. The sashes measured 2 feet 6 inches wide by 5 feet 3 inches high. A doorway 2 feet 10 inches wide (D103) that provided access from the residence to the south porch was located east of the paired windows (W105). A small window with double- hung, one- over- one sashes was installed approximately 14 feet from the southeast corner of the barn; it opened into the garage area (fig. 24). This window was present in the 1950 photograph, but was later replaced by a larger window opening (W106). Based on the 1950 photograph, the window appeared to be the same size as the garage window on the north elevation (W101).

The east elevation's first story was altered to accommodate the three bays of the garage (fig. 24). The three garage doorways were spaced evenly along the elevation, and were 8 feet wide. Each doorway was equipped with an overhead paneled garage door. An arched opening was located near the roof peak on this elevation for ventilating the attic space. In the 1950 photograph, the opening appeared to house an arched window that was hinged at the top.

The 1950 photograph depicts the gambrel roof of the New Barn with the wood shingles intact. The most significant alteration to the roof at the time of the ca.- 1947 alterations was the removal of the cupola and the construction of the brick chimney. It is apparent from the extant flashing for the cupola and the change in roof strapping materials, that the wood roof was left intact when the cupola was removed, and that this area was patched. (This evidence was visible from the interior of the barn attic; see fig. 29.) Situated approximately 23 feet from the east elevation, the chimney measured 3 feet 7 inches by 2 feet, 4 inches; it pierced the roof at the ridge, and was centered on the ridge. The chimney was corbelled at the top, and contained two flues.

The 1950 photograph also shows that the half- round metal gutters and round metal downspouts were retained on the main roof and added to the new porch roofs.

Interior Alterations

The builders worked with the existing interior configuration when altering the New Barn to a garage and residence. They retained the major structural members and fit the new functions within the existing framework. The three- bay garage was added in the east and central bays of the New Barn, and the residence occupied the west bay. Thus, the garage measured 24 feet wide by 32 feet long, and the living quarters were 18 feet wide by 32 feet long.

Basement

The area under the garage area remained a crawlspace that was accessible through a small doorway in the south elevation of the foundation. Most of the area below the residence also remained a crawlspace, with the exception of a portion in the southwest corner of the building, which was excavated and combined with the basement of the south porch to form the basement utility room (fig. 30). The utility room was 14 feet 3 ¼ inches wide; the area under the main structure measured 15 feet 6 ½ inches long, while the area under the porch was 17 feet long. The utility room was constructed with a poured concrete floor and concrete block walls. The utility room was accessed through a doorway on the south elevation, and via a stairway to the first story of the living quarters.

First Story

The physical evidence, supported by documentation, indicates that the garage when partitioned by George Knettel was one open space measuring 24 feet wide by 32 feet long. Though some additional work was done after the initial partitioning, it appears that the garage area was one open space at the time of the 1950 insurance inspection.

A concrete slab floor was poured on top of the existing tongue- and- groove board floor. Though only portions remain, this slab covered the entire garage area. During the removal of portions of the concrete floor in 2002, it was determined that the concrete was reinforced with half- inch- square, steel- bar stock arranged in a grid of about 1 foot on center. The concrete floor was poured on top of asphalt- or creosote- impregnated paper laid over the existing floor.[63]

Based on extant materials in the attic of the barn, it appears that the partition between the garage and the residence was framed with 2 by 4 lumber, which was covered with wallboard and finished with a rough- textured two- coat plaster. The insurance inspection noted that the walls were covered with "rock board sheathing," and that a "blank lath and plaster partition" separated the garage from the residence.[64] These materials seem to be consistent with the August 1944 bill from George Knettel. Sheathing on the outside walls would have been attached to the existing 2 by 6 framing. However, except for the partition wall, the 1944 wall and ceiling finish materials are no longer extant.

The ceiling of the garage was 9 feet above the floor level, and above the middle garage bay a hatch provided access to the attic spaces.

[63] Finch, p. 5.
[64] Great American Insurance Co., June 5, 1950. SAHI – 9800, TRA, Box 5, Folder 2, (Appendix B).

There were two small windows in the garage, as previously described. The existing woodwork does not appear to be from the period of the conversion, and there were no other extant woodwork details in the garage area.

As described previously, the living quarters in the New Barn were built within the existing west bay of the barn. On the first story, the residence consisted of a kitchen with pantry and a living room (Appendix D, fig. 42). The entry to the residence on the north elevation, first story, opened into a vestibule measuring 3 feet 3 ½ inches wide by 4 feet long (Room 101), which in turn led to the kitchen (Room 102). The kitchen measured 12 feet 3 ½ inches wide by 15 feet 2 inches long. A pantry 4 feet wide by 5 feet 3 inches long (Room 102a) was situated on the east side of the kitchen; adjacent to that was a small closet. The doorway to the basement stairway was located in the southeast corner of the kitchen off a short hallway/landing. A doorway on the south wall of the kitchen led to the living room (Room 103), which measured 13 feet 3 inches wide by 15 feet 6 ½ inches long. The stair hall (Room 104) was situated in the southeast corner of the first story, and had a doorway to the south- elevation porch (D103) and a doorway in the east wall to the garage (D104, the present doorway to Room 105), as well as a doorway to the living room.

The doorway to the garage (D104) appears to have been the only connection between the residence and the garage at the time of the conversion ca.1947. This was apparent from the trim and paint evidence on this doorway. Examination of the paint layers showed that the first paint on this doorway matched other elements in the stair hall (Room 104), and the doorway trim matched the trim throughout the first story. This was further supported by the evidence on the current doorway (D108) from the vestibule (Room 101) to the north bay of the garage (Rooms 108 and 108a). Building materials and paint evidence indicated that this doorway was a later alteration (see the subsequent section describing NPS stewardship).

The kitchen had a small window in the north wall and a set of triple windows in the west wall, the details of which were described previously. The living room had a set of triple windows in the west wall and a set of double windows in the south wall. The windows and doorways on the first story were all trimmed with 4 ¼- inch wide casings composed of a cyma- reversa molding applied to the inside edge, perpendicular to the jamb, and a broad fillet and cyma- reversa molding applied to the outer edge of the trim. The interiors of the mullions in the triple and paired windows were plain boards with no molding. The window sills were three- quarters of an inch thick, and a plain board molding with a cyma reversa at the base was applied under the sills.

The interior doors throughout the first story were single- panel doors with glass knobs, with the exception of the door to the pantry, which had a porcelain knob set. This may be a later alteration.

From the materials observed and the description in the 1950 insurance document, it appears that the interior walls were covered with wallboard. The walls of the first story were finished with a top layer of plaster that was tooled to a rough texture. The ceilings at this level were finished in the same manner.

The walls of the first story had 6 ¾- inch baseboards, which had a quarter- round molding at the base and a cyma recta and beveled molding at the top. A 1 ½- inch wide picture rail, composed of quarter- round and astragal moldings, was installed on the four walls of the living room. There was no evidence of a similar picture rail in other first- story rooms.

Tongue- and- groove wood- strip flooring was installed over the existing tongue- and- groove barn floor in all areas of the first story.

Second Story

As with the first story, the second story of the living quarters was built within the existing framing of the west bay of the New Barn. In order to accommodate the construction of the second story, the two bridging beams – which ran from the west bent to the west- elevation plate – were removed. The partition wall between the residence and the garage at this level was framed with 2 by 4s attached to the existing frame, which would have stabilized the overall structure. The ceiling of the second story was framed with 2- by 10- inch conventional lumber.

The second story of the residence was built with two bedrooms, and a bathroom with a linen closet in the hallway (Appendix D, fig. 43). The structure of the second- story bedrooms extended partially into the gambrel roof. Thus, the north wall in the northwest bedroom (Room 202) and the south wall in the southwest bedroom (Room 204) were constructed to follow the shape of the gambrel. When constructing the living quarters, the exterior walls on the north and south elevations were furred out an extra 3 inches on both sides. This slightly reduced the total area of the second story, but still accommodated the new bedrooms.

The stairway to the second story was constructed on the easternmost wall of the living quarters. It ascended to a small hallway at the top of the stairway (Room 201). The two bedrooms and bathroom were located off of that hallway. A small linen closet occupied the northwest corner of the hallway. Located north of the hallway was a bedroom (Room 202) that measured 9 feet 5 inches wide by 16 feet 8 ½ inches long, with a closet in the southeast corner. The second bedroom (Room 204) was located across the hallway to the south, and measured 13 feet 1 ¼ inches wide by 15 feet 4 inches long. A closet was located in the southeast corner of the room over the first- story stair hall. The bathroom (Room 203) was situated between the two bedrooms and accessed from the hallway. It was 5 feet ½ inches wide by 7 feet 10 ½ inches long.

The only windows in both bedrooms were located on the west elevation (fig. 28). Each bedroom had a set of paired windows with double- hung, one- over- one sashes. The bathroom had a small window on the west elevation. The casings of the second- story windows and doorways were similar to the first story, being 4 ¼ inches wide and composed of a cyma- reversa molding applied to the inside edge, and a broad fillet and cyma- reversa molding applied to the outer edge. The interiors of the mullions in the paired windows were plain boards with no molding. The window sills were three- quarters of an inch thick, and a plain board molding with a cyma reversa at the base was applied under the sills.

The interior doors throughout the second story were single- panel doors with glass- knob sets.

The interior walls of the second story, in the same manner as the first story, appear to have been constructed of wallboard finished with a plaster top coat. The top layer of plaster was tooled to a rough texture. The ceilings at this level were finished in the same manner. During the physical

investigation, the wallboard attached to the second story ceiling was observed from the attic space.

On the second story, all of the walls received 6 ¾- inch baseboards, with a quarter- round molding at the base and a cyma recta and beveled molding at the top. No other decorative moldings were present.

Tongue- and- groove wood strip flooring was installed in the hallway, bedrooms, and closets at this level. The ca.- 1947 bathroom flooring was not visible at the time of the building investigation.

Utilities

A small basement was constructed when the New Barn was converted to a residence, primarily for use as a utility room. The 1950 inventory notes that the basement was equipped with a "coal fired steam boiler."[65] The boiler fed a single- pipe steam- heating system that employed radiators in the first- and second- story rooms. A brick chimney with two flues was constructed during the conversion. At the time of the 1950 inventory the kitchen was equipped with a coal- burning stove.[66]

Electrical improvements during the conversion of the New Barn included the addition of "BX wiring."[67] BX wiring was commonly used in the 1940s, and it is extant in the building. On the first story, the kitchen (Room 102) and living room (Room 103) had ceiling light fixtures, as did the hall, bedrooms, and bathroom on the second story. The ceiling lights were controlled by standard flip- type wall switches.

Theodore Roosevelt Association (TRA): 1948- 1963

The New Barn was often referred to as the "caretaker's cottage" after its conversion to a residence for the site's caretaker ca. 1947. This reference appears in several Roosevelt Memorial Association and Theodore Roosevelt Association documents, cited subsequently. The New Barn was also referred to as the "Caretaker's Cottage & Garage," as well as the "Superintendent's Quarters & Garage" in records of the TRA from 1948- 1963.[68] The reference to the New Barn as the caretaker's residence throughout the TRA tenure is consistent with the TRA's practice of using the buildings on- site to house staff, in an effort to reduce operating expenses.[69] The records of the TRA documented some regular maintenance and minor construction projects at the New Barn. The documents and photographs reviewed, and the

[65] Great American Insurance Co., June 5, 1950. SAHI – 9800, TRA, Box 5, Folder 2 (Appendix B).
[66] Great American Insurance Co., June 5, 1950. SAHI – 9800, TRA, Box 5, Folder 2 (Appendix B).
[67] Great American Insurance Co., June 5, 1950. SAHI – 9800, TRA, Box 5, Folder 2. Note: Due to a typographical error in the insurance report the "X" in "BX" is typed over a "y" (Appendix B). It is apparent that the inspector was referring to "BX" wiring, which was extant in the building and in common use during the time of the conversion.
[68] The primary sources for this period were TRA records stored at Sagamore Hill NHS.
[69] Bellavia and Curry, p. 137.

extant physical evidence, indicate that no major alterations were made to the structure of the New Barn during the tenure of the TRA.

The Roosevelt Memorial Association had begun discussing the fate of Sagamore Hill with Mrs. Roosevelt and her heirs in the late 1940s. In April 1948, six months prior to Mrs. Roosevelt's death, an "Appraisal of Property" for the "Estate of Theodore Roosevelt, Sr." was prepared by Elias E. Patterson for the TRA (Appendix A).[70] That document recorded that the estate had 83.375 acres and included among the improvements to the property "a fairly new cottage containing four rooms and bath and a two- car attached garage."[71] Since there were no other buildings with attached garages on the property at the time, this entry appears to be referring to the New Barn. The building was not new but newly converted, and would have appeared to be new. The appraisal sets the value of the New Barn at $10,000.[72] A letter of appraisal for Sagamore Hill sent to the TRA from Philip H. Brady dated April 16, 1948, also includes the "Superintendent's Quarters & Garage" at $10,000 (Appendix A).[73] Again, this brief description appears to be referring to the New Barn. The value of the property appears to be based on Patterson's appraisal, with some adjustments.

Negotiations for the purpose of purchase by the TRA intensified upon Mrs. Roosevelt's death on September 30, 1948, but the agreement was not finalized until April 1950. During the two years of negotiation, Sagamore Hill remained in trust.[74] Of the material reviewed, there were no records of changes to the New Barn or other construction during this period, and it is assumed that no major alterations occurred during those two years.

The "Great American Insurance Company, Inspection and Survey, June 1950" described the New Barn as "the combined caretaker's dwelling and estate garage (new barn),"[75] and stated that the building's insurable value was $11,500 (Appendix B).[76] The author of the report, C. N. Hagar, drew a map of Sagamore Hill dated June 5, 1950, and a photograph of the east elevation of the building accompanied the report (fig. 24). The map denoted the New Barn as structure number 10, the "Caretaker's Cottage and Garage." The description of the building and the photograph depict the New Barn as it would have appeared after the ca.- 1947 alterations and into the period of the TRA ownership.

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[70] *Appraisal of Property, Situated at Cove Neck, Town of Oyster Bay, Nassau County, N.Y., Estate of Theodore Roosevelt, Sr., E. E. Patterson Appraiser* (E.E. Patterson Appraisal) TRA, HSC, SAHI – 9800, Box 8, Folder 5, Cruikshank, William M., 1948 – 1953.

[71] E.E. Patterson Appraisal. TRA, HSC, SAHI – 9800, Box 8, Folder 5, Cruikshank, William M., 1948 – 1953, p. 2.

[72] E.E. Patterson Appraisal. TRA, HSC, SAHI – 9800, Box 8, Folder 5, Cruikshank, William M., 1948 – 1953, p. 3.

[73] Philip H. Brady to Wm. M. Cruikshank, April 16, 1948, TRA, HSC, SAHI – 9800, Box 8, Folder 5, Cruikshank, William M., 1948 – 1953.

[74] Bellavia and Curry, fn. 187, p. 276.

[75] Wilshin, Vol. II, p. 79.

[76] Wilshin, Vol. II, p. 85.

Upon acquiring Sagamore Hill in 1950, the TRA hired the firm of Henry Otis Chapman, Randolph Evans, William E. Delehanty Architects as the architectural advisors for the property. The architects hired the E. W. Howell Company of Babylon, NY, to perform a number of construction projects at Sagamore Hill over the next several years. The initial work focused on repairs and upgrades to the main house.[77]

The importance of the other buildings on the property was not lost on the TRA. The E.W. Howell Company provided estimates to the architects for reroofing and painting three outbuildings at Sagamore Hill, including the New Barn, in December 1951. A letter dated December 10, 1951, from Chapman, Evans, Delehanty Architects to Howard Smith of the TRA, outlines the estimates and the work to be performed.[78] The estimates for the New Barn roofing and painting were $3,475 using asbestos shingles; $2,850 using "Firechex" asphalt shingles; and $2,575 using 10- to- 15- year asphalt shingles. The letter discusses the use of asbestos shingles for the roofing material as the best of the three materials quoted, as well as the best match to the asbestos shingles on the roof of the main house, which had been completed in 1950. It also states that the estimates include "2 coats of gray paint the same as the present color."[79] Armed with this information, Mr. Smith requested an appropriation of $3,400, as recorded in the minutes of the TRA, Sagamore Hill Committee meeting on December 18, 1951. The motion was seconded and adopted by the committee.[80] It is apparent from the amount of the appropriation, as well as the extant roofing material, that E. W. Howell proceeded with the recommended option of the asbestos shingle material.

On April 1, 1952, the E. W. Howell Company was billed $560 by David Williams for painting the exterior of the "Superintendent's Cottage,"[81] and Howell's initial bill in the amount of $3,159.08 in May 1952 confirms that the project had progressed.[82] The TRA records from July 29, 1953, indicate that $3, 155.50 had been spent on the "Caretaker's Cottage" during the previous fiscal year.[83] It is likely that the reroofing and painting was completed by the fall of 1952.

The TRA gave some consideration to converting the barn to an alternate use in 1955. Based on the existing buildings at Sagamore Hill during this period, it is likely that the barn referred to in this instance was the New Barn. A Sagamore Hill Committee member, Mr. Dyer, proposed converting the barn into a snack bar, and moving and enlarging the museum shop that was located in the main house at the time (presumably to the converted space in the barn). However, the bids for the project were beyond the TRA's budget, and the project was abandoned.[84]

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[77] Bellavia and Curry, p. 139.

[78] Robert I. Powell, Chapman, Evans, Delehanty Architects, to Howard C. Smith (Powell to Smith), December 10, 1951. TRA, HSC, SAHI – 9800, Box 8, Folder 1, Chapman, Evans, and Delehanty, 1944 – 1951.

[79] Powell to Smith, December 10, 1951. TRA, HSC, SAHI – 9800, Box 8, Folder 1, Chapman, Evans, and Delehanty, 1944 – 1951, p. 2.

[80] Minutes of the Executive Committee Meeting of the Sagamore Hill Committee, December 18, 1951, p. 39. TRA, HSC, SAHI – 9800, Box 8, Folder, Executive Committee Minutes 1942- 1952.

[81] David Williams to E.W. Howell Co., April 1, 1952. TRA, SHC, SAHI – 9800, Box 12, Folder 1.

[82] E.W. Howell Co. to Chapman, Evans, Delehanty Architects, May 1, 1952. TRA, HSC, SAHI – 9800, Box 12, Folder 1.

[83] Chapman, Evans, Delehanty Architects, Budget for Sagamore Hill, July 29, 1953. TRA, HSC, SAHI – 9800, Box 8, Folder 2.

[84] Minutes of the Executive Committee Meeting of the Sagamore Hill Committee, November 19, 1955,

The "Caretaker's House" was painted with two coats of Pittsburg paint in April 1957. The work order notes that the "trim, screens and storms were painted as needed to match the entire color scheme of the souvenir shop,"[85] which had been built adjacent to the New Barn in 1956. Again the reference to "Caretaker's House" appears to be referring to the New Barn. The notation in the project description about matching the color of the souvenir shop specifies a building near the shop, and the New Barn was the only residence close to the shop.

Based on the materials reviewed and the physical evidence, it is apparent that the TRA continued to maintain the New Barn for the remainder of their management of the site, but made no major alterations to the building. The New Barn appeared at the close of the TRA's tenure at Sagamore Hill in 1963 much as it had when the property was acquired by the organization.

National Park Service: 1963 – Present

The TRA officially donated Sagamore Hill to the federal government in 1963, pursuant to Public Law 87- 547, signed by President John F. Kennedy on July 25, 1962.[86] Under the auspices of the Department of the Interior, the National Park Service (NPS) has maintained stewardship of the Sagamore Hill National Historic Site since its establishment on July 6, 1963. The NPS has consistently striven to preserve the cultural resources at Sagamore Hill, with minimal changes to the structures.

The New Barn has been used throughout the NPS period as a residence for park staff. The NPS has maintained the building through regular maintenance and minor construction projects. Though documentation of the work preformed by the NPS is not extensive, it is apparent that there have been no significant alterations to the New Barn since the NPS acquired the site. With the exception of some minor changes by the TRA and the NPS, the New Barn appears today essentially how it appeared after the ca.- 1947 conversion from farm building to residence and garage.

Paint analysis of the exterior building elements indicates that the NPS painted the exterior of the building approximately every five years. The building was often painted gray, as it was when first built in 1907 and after the ca.- 1947 conversion. However, some variations on that theme were detectable through microscopic paint analysis (Appendix E). The photographic evidence from the 1960s, 1970s, and 1980s demonstrates paint schemes during the period of the NPS stewardship. Regular maintenance of the exterior was important due to the proximity of the New Barn to the public spaces of Sagamore Hill NHS.

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p. 1. TRA, HSC, SAHI – 9800, Box 9, Folder 9, Executive Committee Minutes 1952- 1961.

[85] Howard Kraft, TRA, to Robert Wietzman, Painter, Byaville, N.Y., April 10, 1957. TRA, HSC, SAHI – 9800, Box 12, Folder 5.

[86] Bellavia and Curry, p. 4.

When the NPS took over the site in 1963 a master plan for Sagamore Hill was created, which among other things called for the restoration of the New Barn. The document stated the following:

> The existing two- story, two- bedroom apartment and porch in the converted barn northeast of the Theodore Roosevelt house shall be obliterated in conjunction with the restoration of that building.[87]

Though this plan has not been carried out to date, the report does provide a brief but useful description of the New Barn.

One alteration that did occur during the NPS tenure was the creation of an additional bedroom (Room 105) on the first story of the barn. This bedroom, which measured 10 feet 10 ½ inches wide by 12 feet 2 ½ inches long, was situated in the southeast bay of the garage; it increased the total number of bedrooms in the New Barn to three. The space was separated from the garage area by partitions, and a small storage room (Room 106) was created at the east end of the bay. The alteration of the space included changing the small garage window on the south elevation to a set of paired windows with double- hung, one- over- one sashes (W106). This alteration was depicted in a photograph from 1965 (fig. 31), as well as an image from the 1970s (fig. 33). The description of the barn from the 1963 document indicates that the addition of the third bedroom happened after 1963. The photograph of the building and a description of the rooms from 1965,[88] as well as exterior paint analysis of the window (W106), suggests the bedroom was added ca. 1965.

When the first- story bedroom was added, the access from the living quarters to the garage had to be relocated. (As previously discussed, the access had been through the doorway from the stair hall (D104) to the southeast garage bay.) Paint analysis and a change in building materials indicate that the doorway from the vestibule to the garage (D108) was a later addition. It is likely that the addition of D108 coincided with the alteration of the southeast garage bay to a bedroom (Room 105), to provide a new access from the living quarters to the garage. The doorway (D108) was 2 feet wide and held a two- panel wood door with plain board trim.

Sometime during the stewardship of the NPS, the open garage bays were separated by partitions covered with "Transite" asbestos paneling. The exact date of construction of these partitions is unknown, but physical evidence indicates that the partitions were erected after the first- story bedroom was created in ca. 1965.

The photographs from the 1960s depict the alteration of the south porch from an open structure to an enclosed space. The 1965 photograph (fig. 31) depicts the crossed ("X") balusters of the porch in place, but a ca.- 1968 photograph (fig. 32)—which accompanied the data sheet for the building dated January 1, 1969—shows the lower balustrade of the porch covered with plywood panels and jalousie windows installed above the panels. The ca.- 1968 photograph does show the crossed ("X") balustrade on the roof remained intact. Based on photographic evidence and paint analysis, it appears that the porch was altered ca. 1968.

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[87] *Sagamore Hill Package Master Plan*, National Park Service, 1963, p. 35.

[88] Jessica Kraft, *Historic American Buildings Survey Inventory*, Department of the Interior, NPS. Sagamore Hill NHS Archives, SAHI Resource Management Records, Central Files - non- current, H2215 – S7421, Box 2 of 3. Form was not dated but referenced a 1963 inspection and accompanied a letter dated May 12, 1965.

Photographs from ca.- 1975 also reveal that the balustrade on the north elevation entry porch was built with straight balusters (fig. 34). The existing balusters are diagonally crossed ("X") balusters similar to the ca.- 1947 balusters of the south porch, which are no longer extant (fig. 35). It is apparent that the balusters were changed by the NPS, and the paint evidence suggests that this happened ca. 1980.

An evaluation of the New Barn by B. B. Diwadkar, Environmental Engineer, in March 2000 found a number of structural problems. The most severe was the condition of the structure below the garage floors. Mr. Diwadkar's report noted that the 2 by 12 joists supporting the garage floor had failed due to excessive loads from the concrete added ca. 1947, the weight of storage, and termite damage. At the time it was noted that joists were no longer properly connected to other structural framing, and that many were resting on the dirt of the crawlspace.[89] Further inspection of the New Barn by C. Thomas Ballos, Senior Exhibit Specialist, in July 2002 also noted that the concrete floors had collapsed into the crawlspace, and that the sills were heavily decayed. During that inspection it was observed that termites had also damaged at least one post supporting the intermediate beam that supported the main floor.[90] The condition of the New Barn led to stabilization efforts by the Preservation Crew of the Northeast Cultural Resources Center.

The stabilization of the New Barn began on July 22, and was completed on September 26, 2002. The primary focus of the work was the repair of the deteriorated sills and joists identified during the earlier inspections. During demolition a large portion of the ca.- 1947 concrete slab was removed. However, a section at the west end of the north garage bay (Room 108a) and the section under the first- story bedroom (Room 105) were left intact. The entire east sill was replaced with a pressure- treated 8- by 8- inch timber, which was flashed with sheet lead. A number of the existing 2 by 12 joists were sistered with new pressure- treated 2 by 12 joists, and some of the deteriorated joists were completely removed and replaced with nail- laminated 2 by 12 joists set 20 inches on center. All of the new joists were secured to the new sill using modern joist hangers.[91]

A large section of the original tongue- and- groove barn flooring, which had been covered by the poured concrete floor, was severely deteriorated. The flooring was replaced with new tongue- and- groove clear Douglas fir flooring milled to match the existing. However, a mistake in the milling of the tongue- and- groove strips resulted in replacement boards that were narrower than the originals.[92]

The work in 2002 also included alterations to the configuration of the doorway in the south garage bay. When the NPS altered the south garage bay to a bedroom and storage room, they left the garage doorway and the overhead garage door intact. Sometime after 1994, a standard doorway and infill siding were installed within the garage doorway opening (fig. 36). The 2002 project included the reframing of the garage doorway to make it flush with the exterior siding (fig. 37). A new standard doorway measuring 3 feet by 6 feet 8 inches (D105) was framed and fitted with a steel door to provide access to the electrical and storage room. The alteration of the garage doorway necessitated the addition of exterior siding, which was done with 1- by 10-

[89] B.B. Diwadkar, Trip Report, SAHI NHS, March 1, 2000.

[90] C. Thomas Ballos, Project Agreement for the Stabilization of the Gray "New Barn" Gambrel Barn, July 16, 2002.

[91] Finch, p. 3.

[92] Finch, p. 3.

inch cedar clapboards to match the existing horizontal siding. Also at this time, the overhead doors in the middle and north garage doorways (D106 and D107) were replaced with new six-panel, four- section overhead doors.[93] All of the new exterior elements were painted to match the existing building.

The stabilization of the New Barn was the most recent project performed by the NPS. No other alterations have taken place at the New Barn since that project.

[93] Finch, p. 3.

Figure 24. New Barn, east elevation after conversion to residence and garage, 1950.

Figure 25. New Barn in background, east elevation, view from Old Orchard, ca. 1950.

Figure 26. New Barn, south elevation, access door to crawlspace (2005).

Figure 27. New Barn, north elevation (2005).

Figure 28. New Barn, west elevation and fenestration (2005).

Figure 29. New Barn, interior view of roof framing and extant evidence of barn cupola, note change in sheathing and extant cupola flashing (2005).

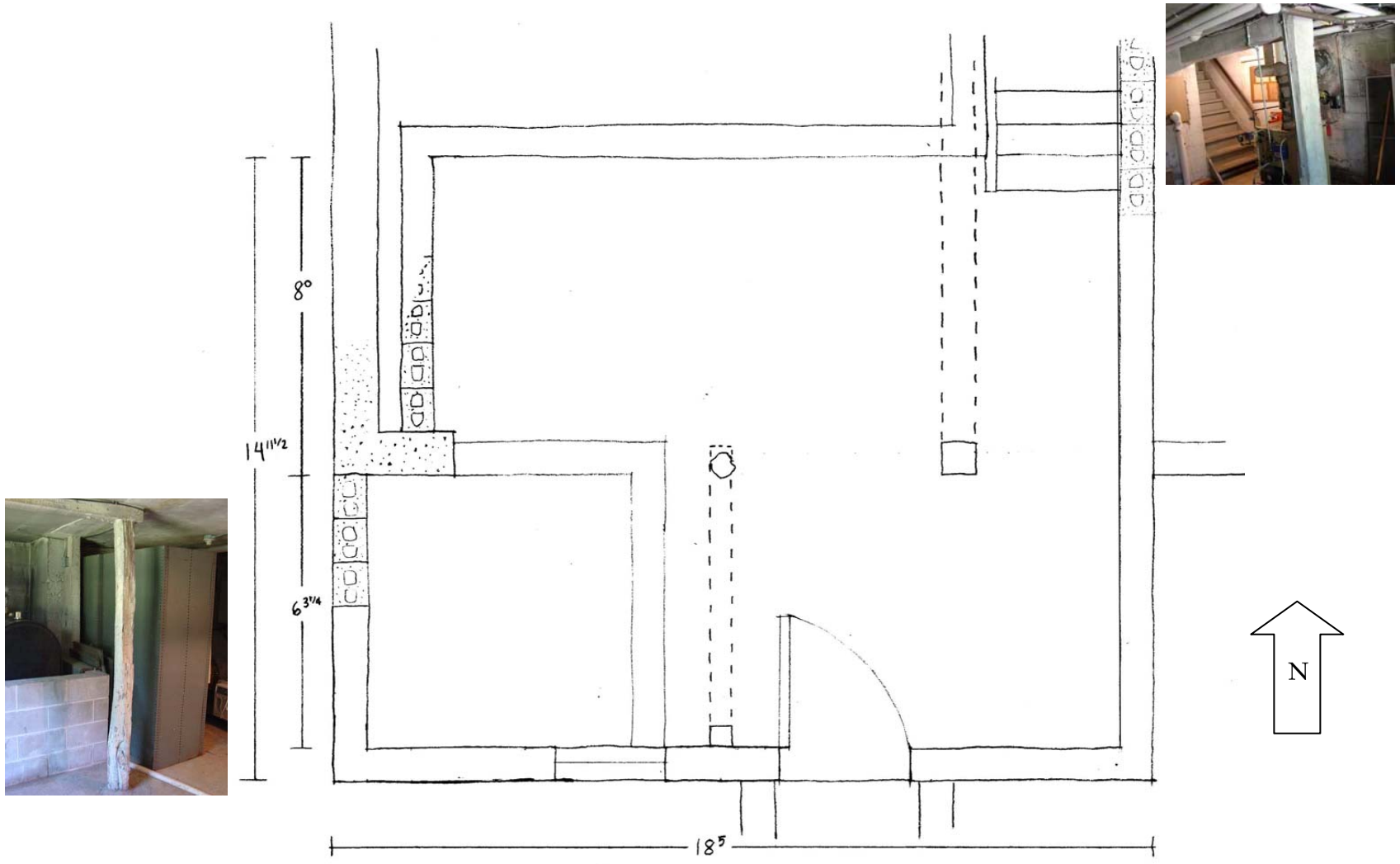

Figure 30. New Barn, schematic plan and photographs of basement utility room (2005). At left is a view looking northwest; at upper right is a view looking northeast.

Figure 31. New Barn, west elevation at southwest corner, 1965.

Figure 32. New Barn, west elevation at southwest corner, ca. 1968.

Figure 33. New Barn, south and east elevations, ca. 1975.

Figure 34. New Barn, north-porch balustrade, ca. 1975 (image cropped).

Figure 35. New Barn, north-porch balustrade (2005).

Figure 36. New Barn, east elevation, southeast garage bay doorway (2002).

Figure 37. New Barn, east elevation, southeast garage bay doorway (2005).

CURRENT PHYSICAL DESCRIPTION

The following physical description of the New Barn is meant to augment the descriptions in the preceding sections "Original Appearance" and "Alterations." The descriptions in those sections should be considered as part of the current physical description. Refer to Appendix D, and figures 27- 28 and 38 – 41 for documentation of physical elements.

Exterior Elements

Foundations

The New Barn has a partial foundation constructed of a combination of poured concrete and concrete block. The poured concrete sections, which are part of the original foundation, are 11 ¾ inches thick, and the concrete- block sections constructed circa 1947 are 8 inches thick and topped with three courses of brick. A section of the concrete block foundation was built to accommodate the full- height basement under the south porch, which extends under a portion of the original structure. Access to the basement below the porch is via a concrete bulkhead with a set of concrete steps; photographs from ca. 1950 show these covered by a wooden bulkhead, but they are currently open to the weather. Portions of the foundation are exposed on the east, south, and west elevations, and are parged with a tan cementitious material.

A cement apron abuts the foundation on the west elevation of the barn, and provides drainage along that side of the building. A macadam driveway sloping away from the barn abuts the foundation on the east elevation. The driveway has concrete retaining walls on the north and south sides; the retaining wall on the south side forms an extension of the foundation.

A concrete slab on the north elevation of the building measures 2 feet 7 inches wide by 5 feet 9 inches long. It supported some type of small storage structure that is visible in the 1970s NPS photographs of the New Barn. The concrete slab remains, but the structure is gone.

Walls

The exterior walls are clad with three- quarter- inch by 10- inch beveled wooden clapboards with an average exposure of 7½ inches to the weather. The clapboards are attached with wire nails over the original vertical siding of the barn. The south porch has plywood- panel knee walls built between the posts. All exterior walls are presently finished with a blue- gray colored paint.

Porches

An open entry porch is situated on the north elevation of the New Barn. The porch has a shed roof supported by 4- by 4- inch posts. The porch balustrade has diagonally crossed ("X") balusters constructed with 2 by 4 lumber. A porch on the south elevation measures 7 feet by 18 feet; it is enclosed with knee walls below jalousie windows in aluminum frames. A doorway in the west elevation of the south porch accesses a set of steps that lead to a concrete pad in the side yard.

The exterior elements of both porches are painted the same blue- gray color as the exterior walls. The interior of the south porch is currently finished with a white paint.

Doorways and Windows

The foundation has two doorways on the south elevation. One is a small access doorway to the crawlspace; the other is a standard- size doorway accessing the basement below the porch. The door to the basement is wood with four lights above two horizontal panels. A small basement window in the south elevation of the porch foundation has a louvered vent and one light.

The entry doorway in the north elevation (D101) has framing that appears to be infill to fit the modern doorway, which is trimmed with a plain board casing. The doorway holds a modern steel door with simulated panels and a fanlight in the top section, and a vinyl storm door. The doorway in the west elevation of the south porch (D102) holds a wood door with a large aluminum- frame jalousie window. The doorway from the south porch to the residence (D103) has a steel door with nine lights over simulated crossed ("X") shaped panels. The doorway to the storage/electrical room (D105) on the east elevation has a steel door with simulated panels and a fan light in the top section, similar to the north entry doorway. The garage doorways (D106 and D107) are equipped with overhead paneled doors and trimmed with plain board casings, all of which were installed in 2002.

Windows on the first and second stories of the New Barn were described in the previous section discussing alterations. They are varying sizes, but all hold double- hung, one- over- one- sashes, and are fitted with triple- track aluminum combination storm windows.

The peaks of the east and west gable ends contain half- round louvered vents, which are painted blue- gray to match the exterior paint color.

All of the exterior trim of the doorways and windows are painted with a blue- gray paint to match the exterior walls. However, the exteriors of the window sashes are painted a lighter gray color, and since they are protected by storm windows, do not appear to have been painted during the most recent projects.

Roofs

The gambrel roof of the New Barn is covered with asbestos shingles installed over wood shingles, which are still extant and visible from inside the attic of the barn. The upper slope of the north side of the gambrel roof is pierced by two plumbing vent pipes. The same asbestos- shingle material is used on the shed roof of the north- elevation porch. The south- porch roof is covered with built- up tar- and- gravel roofing.

As previously described, the gambrel roof has a 14- inch eave with a molded cornice that terminates in returns at the corners of the gable ends of the barn. Half- round gutters are attached to the eaves, and round downspouts are installed at both ends of the gutters. Similar gutters and downspouts are used along both porch roofs.

Other Elements

A brick chimney exits the main roof approximately 24 feet from the east elevation. The chimney is approximately 2 feet by 3 ½ feet, and is centered on the ridge of the roof. The top of the chimney is corbelled and capped with flue vents.

Interior Elements

Basement

The contour of the site allows for a crawlspace with a dirt floor below a majority of the barn. The crawlspace is accessed through a doorway with board- and- batten door in the south elevation. Since the floor of the crawlspace slopes from north to south, the height of the space ranges from approximately 1 foot to 4 feet.

A full- height basement was built under the south porch, and it extends under a portion of the original structure to form a single space, which is currently used as a utility room. The floor of the basement is a concrete slab, and the walls are of concrete block. Asbestos panels are used on the ceiling beneath the porch; a plaster/stucco ceiling is beneath the main structure. The southwest corner of the room is sectioned off by a low concrete- block wall that encloses an area containing two oil tanks.

A stairway with wooden steps in the northeast corner of the room leads up to the first story of the residence.

First Story

The basic floor plan of the New Barn has not changed dramatically since the alterations ca. 1947. The living quarters of the New Barn primarily occupy the west end of the building, and contain a bedroom, kitchen, and living room.

The entrance in the north elevation leads to a vestibule (Room 101), which has doorways to the kitchen (to the west) and to the garage (to the east). The floor of the vestibule is covered with sheet vinyl. The walls and the ceiling are finished with a top coat of plaster and painted white. The entry doorway has a plain board casing which appears to have been changed when the modern steel door was installed. The trim on the doorway to the garage is molded but does not match the other trim on the first story, since this doorway was a later alteration. Other trim in this room matches that described in the previous section on alterations.

The kitchen (Room 102) is situated in the northwest corner of the barn. It features a small window in the north wall and a set of triple windows in the west wall. The kitchen floor is covered with sheet vinyl. The walls and the ceiling are finished with a top coat of plaster and

painted white, with the exception of the south wall, which is covered with thin wood paneling. The trim elements in the kitchen appear as they did after the ca.- 1947 alterations. The kitchen is equipped with modern wood cabinets and laminate countertops along the north and east walls. The kitchen sink is cut into the countertop along the north wall.

The kitchen is supplemented by a 4- by 5- foot pantry (Room 102a) that is adjacent to the vestibule. The interior of the pantry has smooth plaster walls that appear to be a recent alteration. The walls of the pantry are fitted with shelves.

The basement stairway is accessed from a small hallway off the southeast corner of the kitchen. A closet measuring 2 feet 8 inches by 4 feet (Room 102b) is also reached from this small hallway.

The living room (Room 103) is located in the southwest corner of the barn. The living room appears much as it would have after the ca.- 1947 alterations, with wood- strip floors, plaster walls and ceilings, and molded trim. The triple windows in the west wall and paired windows in the south wall take advantage of the room's southwest corner location.

The stair hall (Room 104) is situated on the interior of the building east of the living room. The stair hall provides access to the first- story bedroom and the south porch. The floor in the stair hall is covered with wall- to- wall carpeting, and the walls and ceiling are plaster. The trim matches the ca.- 1947 trim used throughout the first story.

The first- story bedroom (Room 105) is located on the south side of the building east of the stair hall. Since the bedroom is in the former garage bay and retains the ca.- 1947 concrete slab floor, there is a 7- inch step up upon entering the room. The floor is covered with wall- to- wall carpet and the walls and ceiling are plaster. The windows and doorways are trimmed with plain board casings.

The east end of the New Barn has two garage bays and a storage room. The storage room (Room 106), in the southeast corner of the barn, is currently used to store books and materials sold in the shop. The floor is tongue- and- groove boards, most of which date from the 2002 stabilization, but some original flooring is extant.

The walls and ceiling are covered with asbestos panels, except for the area of the east wall that had been the garage doorway, which is now infilled with plywood panels and a modern hinged door (D105) to Room 106.

The middle garage bay (Room 107) is similarly finished with asbestos panels on the walls and ceiling. Most of the wood floor was replaced during the 2002 stabilization with new tongue- and- groove boards. A wooden ladder provides access to the unfinished attic through a framed opening in the ceiling. The doorway is equipped with overhead paneled doors, with one section being glazed.

Most of the materials in the north garage bay (Room 108) are the same as those in the middle bay (Room 107). However, the north garage bay has an ell section (Room 108a) that is separated from the residence by the 1944 partition wall, and also retains the ca.- 1947 concrete slab floor. The other walls and ceiling in this area are covered with asbestos panels. This section of the room is currently used as storage and a laundry area. The north garage bay has a small window in the north wall and a narrow doorway (D108) leading to the residence.

Second Story

The layout of the second story remains the same as it was after the ca.- 1947 alterations. The living quarters above the first story contain two bedrooms and a bath. The second story is accessed by a stairway that is covered with wall- to- wall carpeting. The stairs terminate in a small hallway (Room 201) that contains a small linen closet. The bedrooms (Rooms 202 and 204) and bathroom (Room 203) radiate off the hallway, and retain most of the elements described in the "Alterations" section.

The second- story rooms have been updated with wall- to- wall carpeting, except for the bathroom floor, which is covered with sheet vinyl. The bathroom has also been updated with modern fixtures, included a toilet, sink, and bathtub with shower.

Attic

The attic of the New Barn is accessed from the middle garage bay and has two levels. Both attic levels are unfinished, and appear to be in the same condition they were after the ca.- 1947 alterations. The framing of the New Barn is exposed at the attic level, and much of the original structure is visible, as well as the track and pulley system attached to the roof ridge.

The attic above the garage bays measures approximately 24 feet by 32 feet. It is open to the ridge of the roof, which is about 21 feet above the attic floor. The plywood floor is 9 feet 6 ¼ inches above the existing garage floor. The attic over the two- story living quarters measures approximately 18 feet by 30 feet, and is also open to the ridge. The floor level of this attic is about 8 ½ feet higher than the floor of the garage attic, so a ladder from the garage attic is needed to access it. The attic over the living quarters has no flooring covering the framing added ca. 1947. Both attic levels are currently used for storage.

Utilities

Electrical Service

The New Barn has 100- amp electrical service with circuit breakers; the panel is located in the garage storage room (Room 106).

The lighting in the basement consists of overhead porcelain fixtures that are supplied by metal conduit carrying duplex wiring. The fixtures are fitted with bare light bulbs, and the lights are controlled by standard flip- type switches.

The vestibule, kitchen, living room, and bedroom are lighted with overhead fixtures, which are centered in each room. All fixtures are controlled by standard flip- type switches. The living-room ceiling fixture appears to be older; the ceiling fixture in the kitchen is a modern

replacement. The pantry has an overhead porcelain fixture with a bare light bulb. The conduit for this light is run along the outside of the wall. All other wiring at this level is hidden within the walls and is presumably the BX cable wiring installed during the ca.- 1947 alterations.

The second- story rooms all have ceiling- mounted fixtures with standard flip- type switches. The overhead fixtures appear to be modern, and are wired with BX cable visible from the attic level.

The garage bays are illuminated by overhead porcelain fixtures with bare light bulbs.

The attic above the garage bays is lighted by two sets of flood lights, which are wired with BX cable and mounted on the framing. These are the only source of light in the attic levels.

Heating and Hot Water

Currently the residence of the New Barn is heated by an oil- fired steam boiler located in the basement utility room, which is fed from two oil tanks. A hot- water heater also in the utility room services the plumbing for the residence.

The basement of the New Barn is only warmed by the heat generated by the boiler in the utility room. The kitchen, living room, and bedroom on the first story, and the bedrooms and bathroom on the second story, are all are heated by radiators supplied by the steam boiler in the utility room. The only heating in the garage bays is a steam radiator located in Room 108a. The attic levels are unheated.

Figure 38. New Barn, east elevation (2005).

Figure 39. New Barn, south elevation (2005).

Figure 40. New Barn, south and west elevations (2005).

Figure 41. New Barn, north and west elevations (2005).

PART II.

TREATMENT AND USE

INTRODUCTION

A historic structure may be significant for its architectural features and/or its association with historic events and persons. The character- defining features (CDFs) of a building are those visual features and elements that define the structure and contribute to the building's historic integrity. Only by retaining those CDFs can the historic integrity of the structure be preserved.

The proposed treatment for the New Barn, in accordance with the preferred alternative of the draft GMP, is rehabilitation. The Secretary of the Interior's "Standards for Rehabilitation" address this in the definition of "rehabilitation," which is "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."[1] The standards further address the preservation of "those portions and features" as follows:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

[1] Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington, D.C.: U.S. Department of the Interior, National Park Service, 1995), p. 61.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.[2]

The period of significance for Sagamore Hill in accordance with the National Register of Historic Places is 1884 – 1948. The current interpretation of Sagamore Hill places emphasis on the years the site was associated with Theodore Roosevelt, 1884 – 1919. The National Register criteria recognize the significance of the architecture of the Queen Anne- style main house, which dates to 1884 – 1885. The National Register also recognizes Edith K. Roosevelt and Theodore Roosevelt, Jr., as significant persons associated with the site. The period of Edith K. Roosevelt's stewardship 1919 – 1948 is considered important, but has not been the focus of the interpretation of Sagamore Hill.

In determining the character- defining features of the New Barn, greatest consideration has been given to the fact that it was built during Theodore Roosevelt's stewardship of the property, including his presidency. The fact that the New Barn remained unaltered throughout most of the Roosevelt family's tenure was also important in determining the building's CDFs. The alterations to the building in 1944 and ca. 1947 did occur during the Roosevelt era, and represent an important change in use for the structure. The CDFs recognize the entire tenure of the Roosevelt family at Sagamore Hill, 1884 – 1948, but place emphasis on the period of Theodore Roosevelt's association with the site. While post- original features are dated in the CDFs, it is recommended that the restored exterior should reflect the 1907 – 1919 period (which actually extends to 1944, when the first alterations were made to the barn).

[2] Weeks and Grimmer, p. 62.

CHARACTER- DEFINING FEATURES

Exterior Elements

Design and Context

- Original English barn style with original fenestration and north- elevation earthen entry ramp.
- Original massing of the New Barn.
- Location within the farmyard of Sagamore Hill.
- Relation to other farm buildings and the landscape of the farmyard.
- Ca.- 1947 changes to the original form.

Porches

- Ca.- 1947 south porch with diagonally crossed ("X") balusters.

Fenestration

- Large barn doorways on north and south elevations, which were original to the New Barn and define the English barn style.
- Original loft doorways on east and west elevations, especially on the west elevation.
- Ca.- 1947 window openings and double- hung, one- over- one sashes, especially on the west elevation.
- Ca.- 1947 garage doorways.

Roof and Related Elements

- Original gambrel roof form with heavy soffit and rake.
- Original 14- inch eaves and soffit, cornice returns, and cornice molding.
- Original barn cupola with louvered sides and hip roof (until it was removed ca. 1947).
- Original half- round gutters and round downspouts.
- Ca.- 1947 brick chimney.

Materials

- Original vertical shiplap barn siding.
- Original wood- shingle roofing material.
- Original wooden sliding barn doors on side- wall doorways.

Finishes

- Gray exterior paint color dating from period of Theodore Roosevelt's tenure.
- Gray exterior paint color from ca.- 1947 alterations.

Interior Elements

Plan

- Original three- bay open plan of English barn style and associated framing.
- Ca.- 1947 plan with open garage, 24 feet wide by 32 feet long.
- Ca.- 1947 room plan of living quarters.

Floors

- Original tongue- and- groove barn flooring.
- Ca.- 1947 wood floors in living quarters.

Walls and Ceilings

- 1944 partition between garage and living quarters.
- Ca.- 1947 interior partitions with rough- plaster top coat in living quarters.
- Ca.- 1947 rough- plaster ceilings in living quarters.

Doorways

- Ca.- 1947 doorways between rooms in living quarters.

Woodwork

- Ca.- 1947 interior trim, including window and doorway casings, baseboard, and living room picture rail.

RECOMMENDATIONS

The preferred alternative of the draft GMP discusses the rehabilitation of the farmyard, of which the New Barn was an important part. In that plan the barn is to be rehabilitated to its original exterior appearance, for reuse as the visitor orientation center.

It is recommended that the exterior of the New Barn be restored to its appearance during Theodore Roosevelt's tenure, due to the park's focus of interpretation from 1884 – 1919. The interior of the New Barn should be rehabilitated as the visitor orientation center, with an addition to the building to help serve that function. The following recommendations are intended to guide the rehabilitation of the New Barn, with attention given to retaining the building's original character- defining features.

Exterior Elements

Design and Context

- The exterior restoration should emphasize the English barn style. It is recommended that the side- wall doorways be recreated on the north and south elevations of the New Barn in order to enhance the character of the English barn. The historic doorways can be accurately restored based on photographic evidence and extant physical evidence. Work should include the restoration of the entry ramp on the north elevation as depicted in historic photographs.

- Any additions to the New Barn should be unobtrusive and away from the main house's site line. The proposed addition should be placed on the east elevation of the New Barn. The massing of the addition should be smaller than the barn, and the addition should be compatible with the historic materials, features, size, scale, and proportion of the New Barn.

- The New Barn's present location places it within the "inner core" of Sagamore Hill. The current location appears to be the original location and should be retained. The location of the barn will contribute to the rehabilitation of the farmyard, and to reestablishing the context of the working farm at Sagamore Hill.

Porches

- The south porch was added to the New Barn during the ca.- 1947 alterations. Within the context of the conversion of the building to a residence, the porch is considered to be character- defining. However, the building materials have been compromised by later alterations, and in its present form the porch does not retain the elements that represent the ca.- 1947 appearance. Therefore, since the porch does not contribute to the interpretation of the barn to the Theodore Roosevelt era, it is recommended that the porch be removed during the rehabilitation of the New Barn.

Fenestration

- Recreating the side- wall doorways will help to redefine the English- barn quality of the New Barn. It is further recommended that the sliding barn doors, evident in historic photographs, be recreated in order to enhance the historic appearance of the New Barn.

- The rehabilitation of the New Barn should include the re- creation of the west loft doorway. The west- elevation loft door is documented in historic photographs, and the extant physical evidence should provide ample information for an accurate replacement.

- The current recommendation for an addition to the building on the east elevation renders moot the re- creation of the east elevation's loft door. Furthermore, it was not possible to determine from the evidence visible on the interior of the barn whether enough information exists for an accurate replacement of the loft doorway. It is recommended that during the rehabilitation of the New Barn, the east elevation be thoroughly documented.

- Documents indicate that the conversion of the New Barn to a garage began in August 1944, soon after fire destroyed the stable and lodge, which had been serving as the estate garage. By ca.- 1947 the open garage and the three doorways on the east elevation had been established. The garage doors and the southeast garage doorway have been altered since that period. It is recommended that the garage doorways be removed to facilitate the rehabilitation of the New Barn and the addition to the east elevation. However, based on NPS guidelines, the garage bay openings could be retained for interpretive purposes.

Roof and Related Elements

- The gambrel roof and the 14- inch eaves and soffit, as well as the cornice returns and cornice molding, have been determined to be original features. These elements should be retained in their extant form and repaired with in- kind materials as required.

- The cupola was an important feature of the barn, and the rehabilitation of the New Barn should include the re- creation of that element. The recreated cupola should be based on the extant physical evidence and historic photographs of the New Barn.

- Half- round metal gutters and round metal downspouts are evident in historic photographs, and are extant on the building. It is recommended that the gutters and downspouts be retained or, if necessary, replaced in kind.

Materials

- The vertical siding of the New Barn is visible in historic photographs, and was an important character- defining feature of the barn during the Theodore Roosevelt period. The vertical siding was 8- inch ship- lap siding with a half- inch overlap. A significant portion of the original siding remains on the barn, behind the later horizontal siding. It is recommended that the existing siding be removed, and that the vertical siding be repaired and replaced in kind where necessary.

- Documents indicate that the roof of the New Barn was covered with wood shingles throughout the Roosevelt family tenure. Wood shingles are extant under the current asbestos shingles. It is recommended that the wood- shingle roof be recreated. The extant materials should be used to determine the coursing and spacing of the shingles. The current shingles should be replaced with appropriate wood shingles, copying the coursing and spacing of the extant materials.

Finishes

- Documents and paint analysis indicate that the New Barn was painted gray throughout the site's association with the Roosevelt family. It is recommended that the exterior of the New Barn be painted gray, a color that has been identified in the paint analysis to date from the Theodore Roosevelt period (Appendix E).

Interior Elements

The preferred alternative of the draft GMP discusses reusing the interior of the New Barn as a visitor orientation center. The interior would be rehabilitated for that use. With that in mind, the following recommendations are intended to guide the work and respect the CDFs previously described.

Plan

- Retain the interior timber framing that defines the central bay of the three- bay barn. The barn framing is extant, and it is recommended that portions of the timber frame be exposed to demonstrate at least that part of the building's framing system.

- The first story of the three- bay barn had an open plan. It is recommended that the open plan on the first story of the New Barn be reestablished.

- Documents indicate that the garage area had an open floor plan after it was converted to that use. Alterations after the Roosevelt family era included the installation of partitions between the garage bays, as well as the addition of one bedroom in the southeast garage bay. It is recommended that later partitions in the garage area be removed to reestablish the open plan and to facilitate the new use.

- The 1944 and ca.- 1947 interior partitions in the west end of the barn define the residence installed when the New Barn was converted to living quarters. In light of the proposed use as a visitor orientation center, it is recommended that the 1944 and ca.- 1947 partitions in the living quarters be removed to allow maximum flexibility in planning the space. However, if the planning of the visitor orientation center permits the reuse of the 1940s partitions, they could be retained.

Floors

- The early tongue- and- groove barn floor of the New Barn appears to be extant under later alterations. It is recommended that the tongue- and- groove flooring be retained in the garage area of the New Barn. Some sections were uncovered during emergency stabilization in 2002 and repaired or replaced in kind. A similar treatment of the extant wood floors in the garage section of the barn is recommended.

- The wood- strip floors in the ca.- 1947 living quarters should be removed to expose the tongue- and- groove barn floor extant under the existing floors. Deteriorated areas of the tongue- and- groove floor should be repaired or replaced in kind.

Walls and Ceilings

- As previously discussed, it is recommended that the partitions for the living quarters be removed. However, they could be retained if that would fit with the building's new use as a visitors' center.

- The ca.- 1947 plaster ceilings should be removed to allow flexibility in the planning of the new space. However, the ceilings could be retained if the new use allows.

Doorways

- The ca.- 1947 interior doorways in the living quarters should be removed to facilitate the new use of the interior space. However, if the planning of the space allows, the interior doorways should be retained in their current configurations.

Woodwork

- It is recommended that the interior trim in the living quarters representative of the ca.- 1947 alterations be removed. However, if the interior partitions are retained, as previously discussed, the trim elements could be retained.

ACCESSIBILITY

The rehabilitation of the New Barn should conform to the requirements of the Americans with Disabilities Act (ADA).

- ADA access to the visitor orientation center should be installed on the north elevation at the side- wall entrance, which should be restored according to the previous recommendations. Access ramps should be constructed as part of the landscape, and could take the form of a landscaped berm, which should be similar to the ramped entrance depicted in historic photographs of the New Barn.

- The previous recommendations allow for flexibility in the interior planning of the space, which should accommodate the installation of any required ADA features. The construction of a second story, in the interior of the existing structure or the addition, would require an elevator or a lift to provide ADA access to that space. In the event that a second story is constructed, the required ADA equipment should be contained within the massing of the existing barn or the addition.

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APPENDICES

APPENDIX A.

Appraisal Documents for Sagamore Hill April 1948

A P P R A I S A L

-of-

Property

Situated at Cove Neck,

Town of Oyster Bay,

Nassau County, N. Y.

ESTATE OF THEODORE ROOSEVELT, SR.

E. E. PATTERSON
Appraiser

A P P R A I S A L

OF PROPERTY

Situated at Cove Neck,

Oyster Bay, Nassau County,

New York.

ESTATE OF THEODORE ROOSEVELT, SR.
DECEASED.

STATE OF NEW YORK)
: SS.
COUNTY OF NEW YORK)

ELIAS E. PATTERSON, being duly sworn, deposes and says: That he is a licensed real estate broker doing business as a real estate broker and appraiser, with an office for the transaction of business at 15 East 41st Street, New York City, N. Y. That he has been engaged in the business of appraising real estate in the County of Nassau, State of New York, for twenty-five years last past and he is familiar with the values of real estate located in the neighborhood of the premises hereinafter described.

At the request of the ROOSEVELT MEMORIAL ASSOCIATION, he has examined the following described property, ESTATE OF THEODORE ROOSEVELT, SR. situated at Cove Neck, Town of Oyster Bay, Nassau County, New York, known as 'Sagamore Hill'.

The property consists of an area of Eighty-three and three hundred seventy-five hundredths (83.375) acres. The home plot is approximately twenty acres; the highest elevation on Cove Neck, and commands very extensive views to the east and west.

The residence is frame construction, built probably seventy years ago. During Mr. Roosevelt's lifetime, he built an extension on the north called the Trophy Room: also a fairly new cottage containing four rooms and bath and a two-car attached garage. On the twenty-nine acre parcel there is an old cottage of five rooms and bath, occupied by one of the men employed on the estate.

I was unable to inspect the interior of the house, due to illness of Mrs. Roosevelt, but I assume the house would have to be renovated for private occupancy, and a large amount of money would have to be spent for new heating, plumbing, plumbing fixtures, decorating and repairs.

At the present time there is practically no demand for estates with as large an area as this. The maintainence and taxes is such that it is only now and then that large estates are sold for private occupancy. Therefore it is my opinion that a larger amount could be obtained by disposing of the property in four or five units. If the property were offered as a unit for private occupancy or for development, it is my opinion that it would have to be priced under $100,000.

The property is approached by a private right-of-way from the highway, twelve hundred and forty-seven feet long. The maintainence of this right-of-way throughout the year involves considerable expense. The only highway frontage that the property has is on a private road about one mile north and east of the right-of-way entrance; this frontage being four hundred seventeen and six one-hundredths feet, plus twenty feet for a right-of-way leading to the property of Mrs. Theodore Roosevelt, Jr. From the brow of the hill to the upland line of the meadow land facing Cold Spring Harbor, is an area of thirty-four acres of woods. There is a ravine running down to the beach, near the south border of the property but this has been used so little that it has grown up so that is is impossible to use it at the present time for automobile travel.

The beach is approached over the marsh land by a flimsey elevated footh path. The elevation of this path indicates that the marsh land is sometimes flooded at extreme high tides.

If the property is sold in parcels as indicated by my appraisal, each and every parcel should carry with it a right-of-way to the beach on Cold Spring Harbor.

APPRAISED VALUE — LAND

Parcel #1 - HOME PROPERTY					
	20	Acres @	$1,500.	per acre ...	$ 30,000.
Parcel #2 -	16	"	1,250.	" " ...	20,000.
Parcel #5	29.305	"	1,000.	" " ...	29,305.
Parcel #6 & #7	10	"	2,500.	" " ...	25,000.
	75.305	ACRES			$ 104,305.

IMPROVEMENTS

Main Residence	$ 20,000.	
New Cottage	10,000.	
Old Cottage	5,000.	
		35,000.
TOTAL APPRAISED VALUE		$ 139,305.

In my opinion the present day value of this property, as of April 3, 1948, date of my inspection, is the sum of ONE HUNDRED THIRTY-NINE THOUSAND THREE HUNDRED AND FIVE ($139,305.) DOLLARS.

Elsie E Patterson

Sworn to before me
this 12th day of April, 1948

Mary E McPartland

MARY E. McPARTLAND
Notary Public, in the State of N. Y.
Residing in Westchester Co.
New York Co. Clerk's No. 224
New York Co. Register's No. 94-Mc-6
Nassau Co. Clerk's No. 13-Mc-60
Suffolk County No. 5454
Term Expires March 30, 1950

C
O
P
Y

HENRY BRADY
Real Estate
31 Nassau Street
New York

April 16, 1948

Mr. William M. Cruikshank,
49 Wall Street,
New York, N. Y.

Dear Mr. Cruikshank:

In appraising the property known as Sagamore Hill, belonging to the Estate of Theodore Roosevelt, at $140,000., I have apportioned the value between land and buildings as follows:

83.375 acres	$110,000.
Main Dwelling	12,000.
Superintendent's Quarters & Garage	10,000.
Chauffeur's Cottage	7,000.
Miscellaneous Out-buildings	1,000.
	$140,000.

Trusting that the above information is that which you desire, I am

Respectfully,

(Signed) Philip H. Brady

PHB:HM

APPENDIX B.

Inspection and Survey Documents from the Great American Insurance Agency June 1950

PROPERTY: Caretaker's Cottage and garage ITEM NO. 10

OCCUPANCY: Building constructed for a barn with gambrel type of roof. Converted into a dwelling and three car garage but which has left about 43% of the cubic foot area as unused also the unfinished attic space over the garage and dwelling. About 13 foot attic over dwelling and 21 feet over the garage. The dwelling has two bedrooms and bath on the second, and living room and kitchen on the first floor.

DESCRIPTION: A frame shingle roof barn type of building 32'X42'X13' to the eaves and 31' to the peak. The dwelling section is 32' by 18' and has a blank lath and plaster partition separating it from the 9' high garage which is 32'X24'. Usual lath and plaster in the dwelling section and rock board sheathing in the garage area. A small basement 14'X16' is under dwelling and the porch and contains the coal fired steam boiler. BX wiring. Brick chimney for the boiler and the kitchen coal stove. 2½ gallon soda acid fire extinguishers.

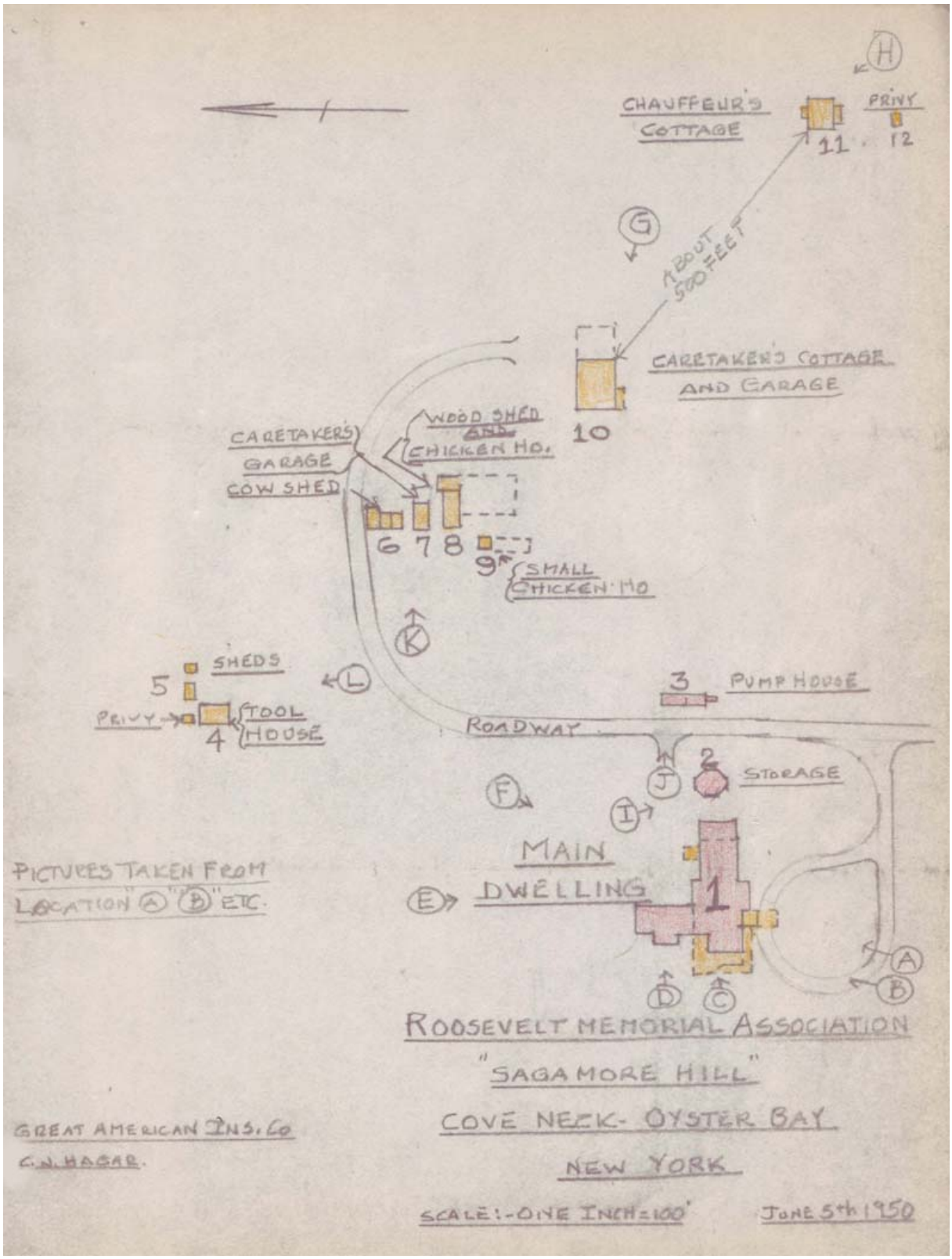
PREVIOUS FIRE INSURANCE AND RATE: $26,000 on the building (a cubic foot cost of 73¢) Rate is "minimum".

ESTIMATED 100% VALUE (JUNE 1950): Replacement value of $16,350 (46¢ a cubic foot) Sound value of $11,500 based upon 15% depreciation plus 15% obsolescence.

SUGGESTIONS:

1. The stovepipe from the kitchen stove to the chimney should be checked to be sure there is proper clearance and ventilation. Part of it is concealed in a lath and plaster partition.

2.


CHAUFFEUR'S COTTAGE
11
12
PRIVY
H
G
ABOUT 500 FEET
CARETAKER'S COTTAGE AND GARAGE
10
WOOD SHED AND CHICKEN HO.
CARETAKER'S GARAGE COW SHED
6 7 8
9
SMALL CHICKEN HO
K
L
SHEDS
5
PRIVY
TOOL HOUSE
4
3 PUMP HOUSE
ROADWAY
J
2
STORAGE
F
I
MAIN DWELLING
1
E
A
B
D
C
PICTURES TAKEN FROM LOCATION "A" "B" ETC.
ROOSEVELT MEMORIAL ASSOCIATION
"SAGAMORE HILL"
COVE NECK - OYSTER BAY
NEW YORK
SCALE:- ONE INCH = 100'
JUNE 5th 1950
GREAT AMERICAN INS. CO
C. N. HAGAR.

APPENDIX C

Bill from George W. Knettel, Contractor and Builder, to Mrs. Theodore Roosevelt

ESTIMATES FURNISHED — PHONE OYSTER BAY 260 — JOBBING DONE

GEORGE W. KNETTEL

CONTRACTOR
AND BUILDER

210 SCHOOL STREET

OYSTER BAY, N. Y. August 1, 1944

Mrs. Theodore Roosevelt

"Sagamore Hill" Oyster Bay, N. Y.

Labor

July 5	1	Carpenter	Repairs on doors and windows, and cutting and patching for plumber	8hrs.	$10.00
6	1	"	" " "	8 "	10.00
7	1	"	Cutting for plumber and putting up plasterboard in cellar	6 "	7.50
8	1	"	" " "	8 "	10.00
10	1	"	" " "	8 "	10.00
11	1	"	" " "	8 "	10.00
12	1	"	" " "	8 "	10.00
13	1	"	" " "	8 "	10.00
14	1	"	" " "	6 "	7.50
31	1	"	Putting up partition in barn for cars	8 "	10.00
Aug. 1	1	"	" " " "	8 "	10.00
					$105.00

Material

July 5	1 hank sash-cord	$1.75
7	3-4x8 Bestwall) 2-4x7 ")	5.70
	3 blank keys	.15
8	2-4x10 Bestwall) 1-4x9 ")	4.35
10	1-4x10 "	1.50
12	3 doz. assorted screws	.36
13	2 doz. brass screws	.30
14	2-1x3-20 EG Fir Flg.	1.30
	1-1x12-6 Redwood	.96
	1-5/4x13-12 C Sel Pine	2.80
31	1x8 T&G Pine 13/14 16/12 2/10	30.90
	4-2x4-20 Fir	4.56
	5 lbs. 6d com. nails	.35
	5 lbs. 8d com. nails	.35
	2-2x4-20 Fir	2.28
	1 pad-lock	.80
	Carried Forward	$58.61

ESTIMATES FURNISHED — PHONE OYSTER BAY 260 — JOBBING DONE

GEORGE W. KNETTEL

CONTRACTOR
AND BUILDER

210 SCHOOL STREET

OYSTER BAY, N. Y. August 1, 1944

Mrs. Theodore Roosevelt

-2-

Material -	Brought forward	$58.41
July 31	2-2x4x3/4 Plyboard	1.80
	2-1x4x8 Pine	.60
	1-1x2-8 "	.10
	Plaster Lath	.08
	5 lbs. plaster	.25
	nails	.24
	1-1½x14-4 Whitewood	.50
Aug. 1	1 pr. heavy galv. strap hinges	.95
	1 hasp	.35
	3 pcs. 1½x4x4 Fir	.40
	2-2x4-20 Fir	2.28
		$65.95
	Plus 10%	6.60
	Material	$72.55
	Labor	105.00
	Total --	$177.55

Paid
aug 13/44
George W. Knettel

MdZ

APPENDIX D

Schematic Plans for First & Second Stories

Plans by Stephen Pisani
for Rehabilitation Project

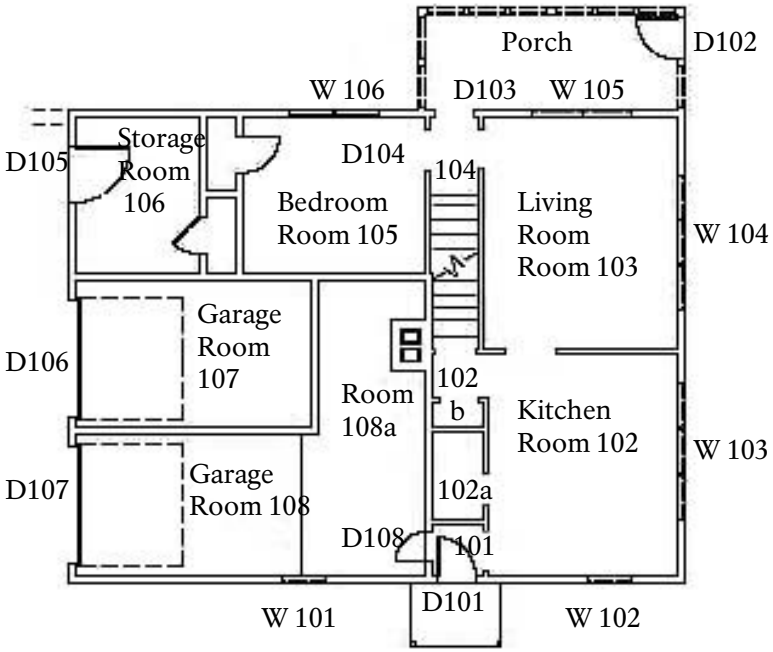


Figure 42. Schematic first- floor plan of New Barn, 2005.

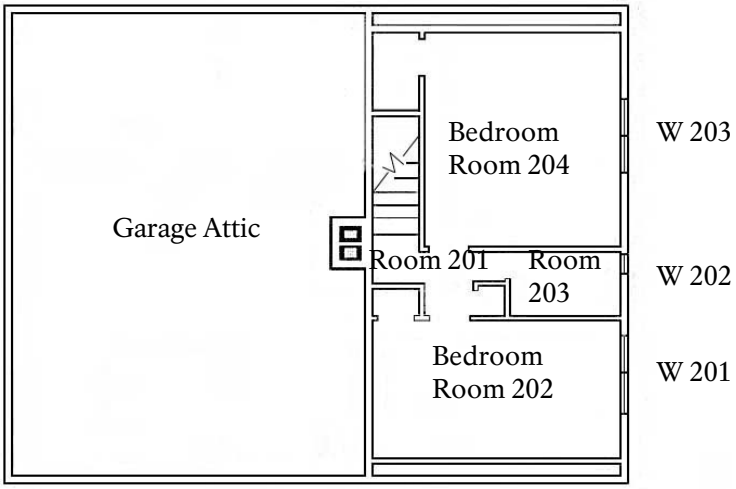
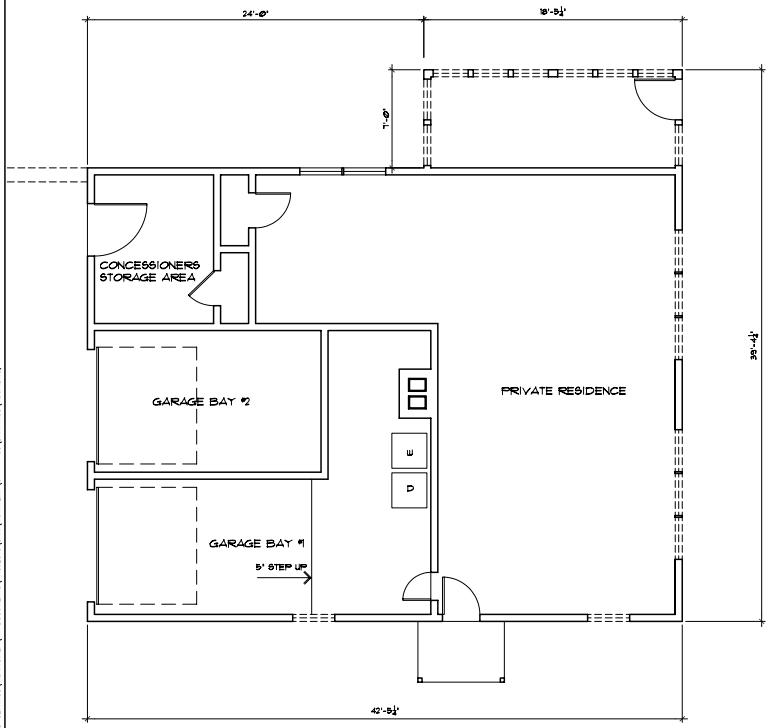
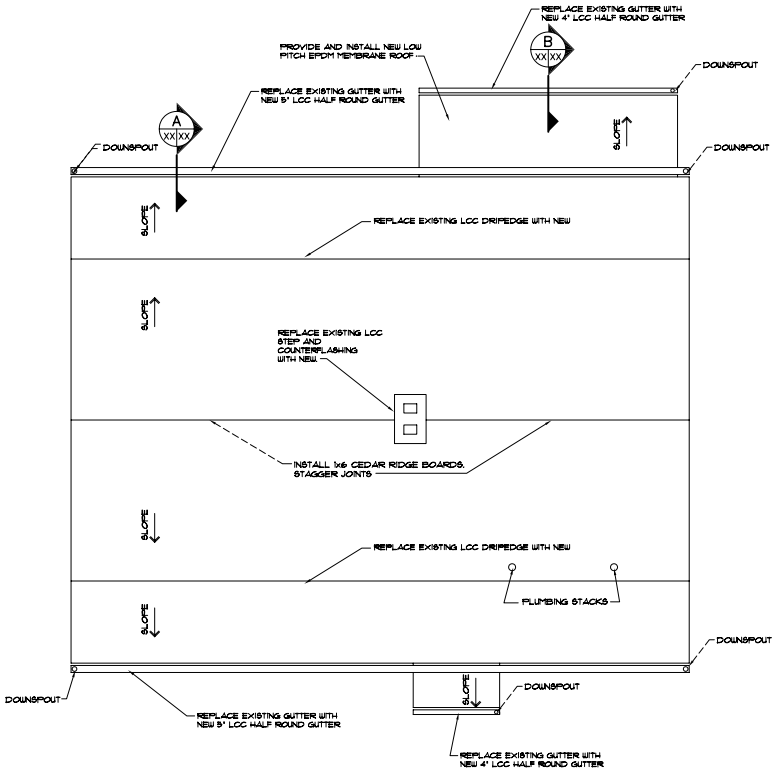


Figure 43. Schematic second- floor plan of New Barn, 2005.



A / A1 FIRST FLOOR PLAN
SCALE A



B / A1 ROOF PLAN
SCALE A

NOTES:

ASBESTOS REMOVAL:

REMOVE ALL ASBESTOS AND UNDERLYING WOOD ROOFING SHINGLES FROM MAIN ROOF, ACM ROLL ROOFING FROM REAR LOW PITCH PORCH ROOF.
REMOVE ALL TRANSITE PANELS FROM THE GARAGE BAYS, CONCESSIONS STORAGE AREAS, AND BASEMENT CEILING.

ALL ASBESTOS CONTAINING MATERIALS TO BE REMOVED AND DISPOSED OF AS PER STATE AND LOCAL CODES.

PROTECT STRUCTURE FROM THE ELEMENTS DURING AND FOLLOWING ABATEMENT OPERATIONS.

WOOD ROOF:

PRIOR TO REMOVING EXISTING WOOD ROOF CONSTRUCT STORY POLES AND DOCUMENT EXISTING SHINGLE COURSING.

REPLACE DETERIORATED OR DAMAGED SKIP SHEATHING AS REQUIRED.

REPLACE ALL ASSOCIATED METAL FLASHINGS WITH NEW L.C.C.

WOOD ROOF CONTINUED:

REPLACE ALL GUTTERS AND DOWNSPOUTS AND ASSOCIATED STRAPS AND HANGERS WITH NEW L.C.C.

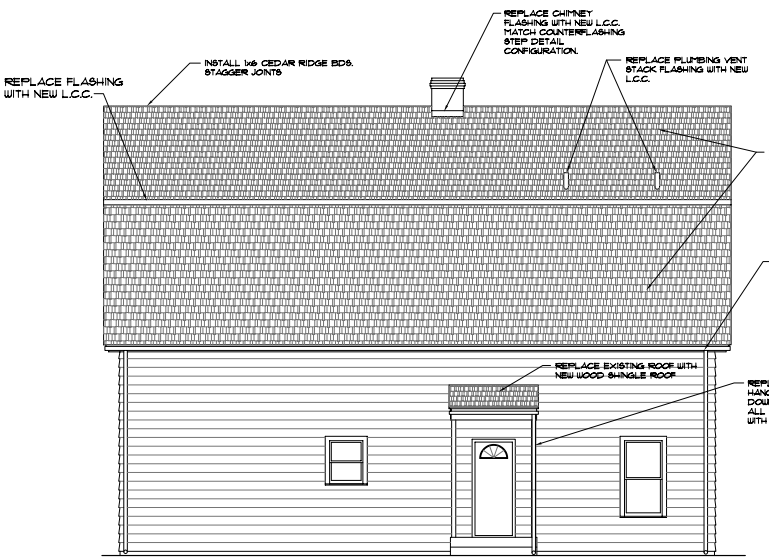
REPLACE CHIMNEY FLASHING WITH NEW L.C.C.

INTERIOR:

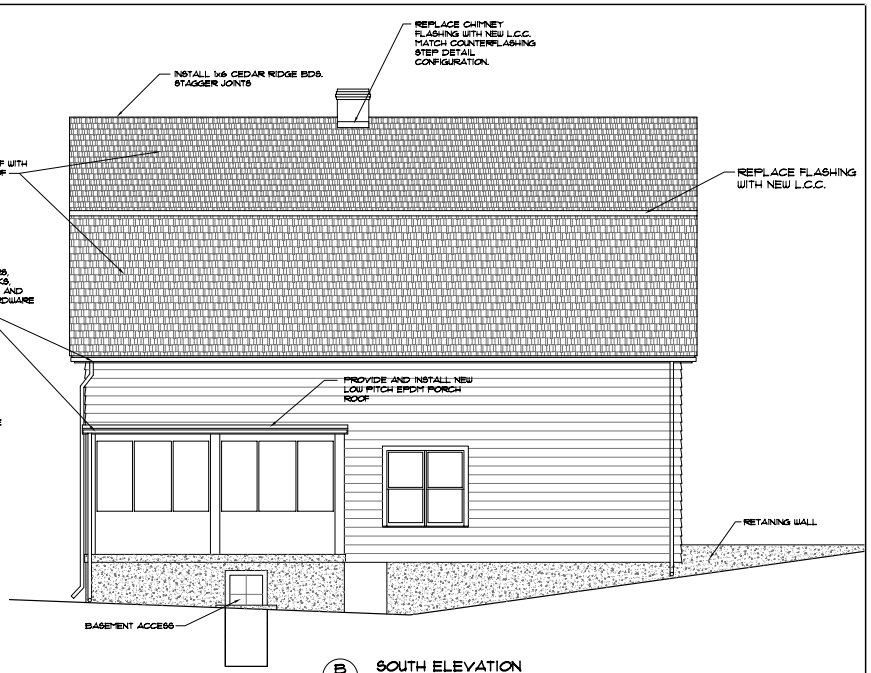
WHERE TRANSITE PANELS WERE REMOVED INSTALL NEW FIRE RATED ½" SHEETROCK, FINISH ALL JOINTS AND EDGES, PRIME AND PAINT.

SCALE A 4 0 4 8
SCALE OF FEET

DESIGNED: SP DRAWN: SP TECH. REVIEW: DATE: 04/2005	SUB SHEET NO. A1	TITLE OF SHEET: FLOOR & ROOF PLANS REHABILITATE HISTORIC NEW BARN ROOF SAGAMORE HILL NHS	DRAWING NO. —— PMIS/PKG NO. SHEET 3 OF 6



A/A2 NORTH ELEVATION
SCALE A



B/A2 SOUTH ELEVATION
SCALE A

NOTES:

REMOVE ALL ASBESTOS AND WOOD SHINGLES. PROTECT STRUCTURE FROM THE ELEMENTS DURING REMOVAL OPERATIONS AND UNTIL NEW WOOD ROOFING IS INSTALLED.

PRIOR TO REMOVAL OF WOOD SHINGLES CREATE STORY POLES DOCUMENTING EXISTING SHINGLE EXPOSURES ON ALL ROOF SLOPES.

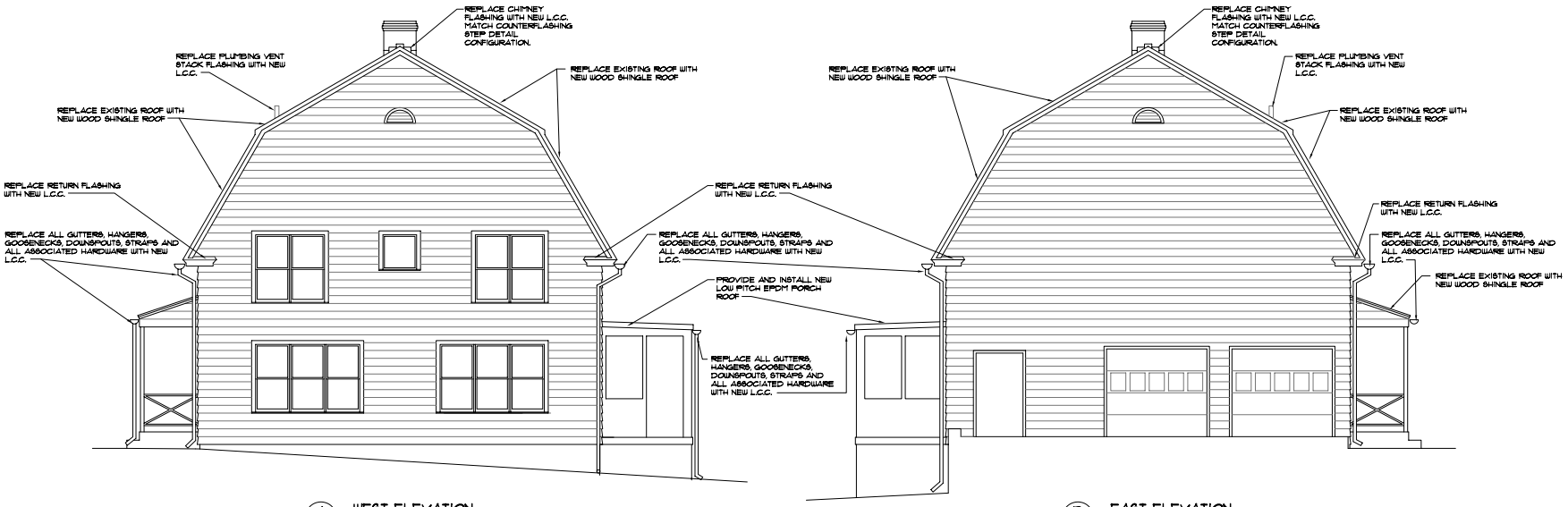
REPLACE ALL GUTTERS, DOWNSPOUTS, GOOSENECKS, OFFSETS AND ASSOCIATED HANGERS AND STRAPS WITH NEW L.C.C. MATCH EXISTING DETAILS. INSTALL NEW BASKET STRAINERS IN ALL GOOSENECK INLETS.

REPLACE DETERIORATED PORCH ROOF SHEATHING AS REQUIRED.

REPLACE LOW PITCH ROLL ROOFING PORCH ROOF WITH NEW FULLY ADHERED EPDM OVER RECOVERY BOARD ADJUST FLASHING DETAILS AS NECESSARY. SUBMIT FLASHING DETAILS TO CONTRACTING OFFICER FOR APPROVAL PRIOR TO INSTALLATION.

SCALE A 4 0 4 8
SCALE OF FEET

DESIGNED: SP	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: SP	A2	NORTH & SOUTH ELEVATIONS	
TECH. REVIEW:		REHABILITATE HISTORIC NEW BARN ROOF	PKG. NO. / SHEET 4
DATE: 04/2005		SAGAMORE HILL NHS	OF 6



A / A3 WEST ELEVATION
SCALE A

B / A3 EAST ELEVATION

NOTES:

REMOVE ALL ASBESTOS AND WOOD SHINGLES. PROTECT STRUCTURE FROM THE ELEMENTS DURING REMOVAL OPERATIONS AND UNTIL NEW WOOD ROOFING IS INSTALLED.

PRIOR TO REMOVAL OF WOOD SHINGLES CREATE STORY POLES DOCUMENTING EXISTING SHINGLE EXPOSURES ON ALL ROOF SLOPES.

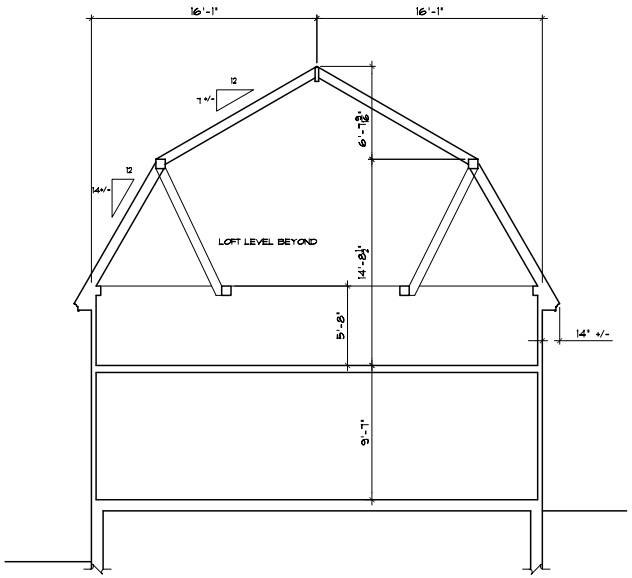
REPLACE ALL GUTTERS, DOWNSPOUTS, GOOSENECKS, OFFSETS AND ASSOCIATED HANGERS AND STRAPS WITH NEW L.C.C. MATCH EXISTING DETAILS. INSTALL NEW COPPER BASKET STRAINERS IN ALL GOOSENECK INLETS.

REPLACE DETERIORATED PORCH ROOF SHEATHING AS REQUIRED.

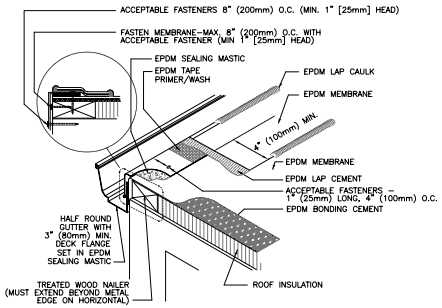
REPLACE LOW PITCH ROLL ROOFING PORCH ROOF WITH NEW FULLY ADHERED EPDM OVER RECOVERY BOARD ADJUST FLASHING DETAILS AS NECESSARY. SUBMIT FLASHING DETAILS TO CONTRACTING OFFICER FOR APPROVAL PRIOR TO INSTALLATION.

SCALE A 4 0 4 8
SCALE OF FEET

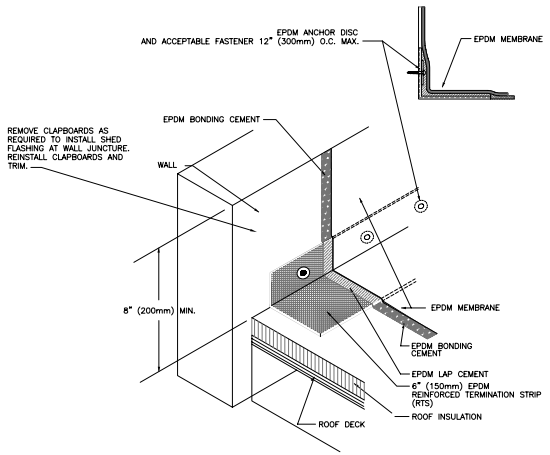
DESIGNED: SP DRAWN: SP TECH. REVIEW: DATE: 4/8/2005	SUB SHEET NO. A3	TITLE OF SHEET WEST AND EAST ELEVATIONS REHABILITATE HISTORIC NEW BARN ROOF SAGAMORE HILL NHS	DRAWING NO. PKG. NO. SHEET 5 OF 6



A A4 SECTION THRU MAIN STRUCTURE
SCALE Ⓐ



B A4 EPDM DETAILS
NO SCALE



C A4 EPDM DETAILS
NO SCALE

SCALE Ⓐ 4 0 4 8
SCALE OF FEET

DESIGNED: SP	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHKD SP	A4	ROOF PLAN AND DETAILS	
TECH. REVIEW:		REHABILITATE HISTORIC NEW BARN ROOF	PMIS/PKG NO.
DATE: 04/2005			SHEET 6 OF 6

APPENDIX E

Exterior Paint Analysis

Introduction

Project Scope

The New Barn will be rehabilitated, and the proposed use will include the restoration of original exterior elements and the rehabilitation of the interior as a visitor orientation center. This report describes the findings of the paint analysis conducted on the exterior elements of the building. The historic paint finishes are described in the following tables, with selected layers matched to a standardized color- notation system for the periods of interpretive interest: ca. 1907, when the New Barn was constructed; ca. 1919, during the tenure of Theodore Roosevelt; and ca. 1947, after the conversion of the New Barn to a garage and residence.[1]

The information in this report can be used to recreate the historic finishes of the building's exterior for the periods specified. The general color palettes used during periods of interpretive interest are considered character- defining features (CDFs) of the structure, and should be recreated where appropriate.

Additionally, information gleaned from the paint analysis was used to date certain elements and alterations to the building. These dates were included in the discussions on "Alterations," and were explained in that section.

Methodology

Paint samples were taken during site visits to Sagamore Hill NHS in June 2005. Thirty- four exterior paint samples were taken from accessible building elements using an X- acto knife. In the laboratory at the Historic Architecture Program (HAP) in Lowell, MA, all samples were examined with a Bausch and Lomb "Sterozoom 7" microscope under 10 to 70 times magnification, illuminated by tungsten fiber- optic light. Some samples were also examined under ultraviolet light to help determine the sequence and composition of paint layers. Representative samples were mounted in wax- filled petri dishes to better examine their finish sequences.

The chronological finish stratigraphy from each sample was recorded in chart form; these sequences were correlated to one another through their common layers. These "chromochronologies" are given in Table I; each horizontal row represents the elements' finishes at one period in time. Drawing upon the documentary and physical research, dates were assigned to some of the rows to illustrate the finishes during certain periods.

[1] The Munsell Color System is an internationally recognized standard of color measurement that identifies color in terms of three attributes, hue (color), value (lightness/darkness, or degree of white/black mixed in to the color) and chroma (saturation, or intensity of the color).

Color matches were performed under the HAP microscope to the finish layer determined to be representative of the periods described above. The layers were matched to Munsell System color cards, glossy finish, and are included with this report.

All samples taken from the New Barn will be stored at the HAP laboratory in Lowell, MA, and will be available for future research.

Data and Conclusions

Data

The exterior paint analysis relied on representative paint samples taken from the New Barn, as well as on historic photographs and documents. The "circa" dates in Table I were derived from the documentation and from observations on site.

Table I lists the finish stratigraphies of selected, representative samples sequentially with circa dates of when those paints would have been applied. The Munsell color swatches provided in Table II for paint colors applied ca. 1907, ca. 1919, and ca. 1947 are representative of the paint colors from those periods. All color names are subjective designations intended to distinguish between paint layers and provide a general color notation. Munsell color notations provide a standard method of color description, but are approximations of the paint colors that were originally used. Thus, the Munsell color chips provide a close but not exact match to most colors. In addition, paints (particularly oil- based) can darken or yellow over time, and certain pigments fade. It should also be noted that color is only one factor affecting a coatings' appearance; sheen, opacity, texture, and application techniques also play a role.

Conclusions

Exterior Elements

The New Barn was constructed ca. 1907, and a magazine article from that same year described that the barn was being painted gray (see Original Appearance). Samples from the original elements [cornice molding (P001), soffit (P006) and vertical siding (P011)] confirmed the presence of the earliest gray paint (fig. 44). As demonstrated in Table I., the exterior of the barn continued to be painted a gray color through the period that Theodore Roosevelt was associated with the site, and indeed throughout the entire Roosevelt family tenure. The samples from the vertical siding corroborated the evidence found on other original elements.[2]

[2] The Munsell color was matched to the sample from the cornice molding and confirmed through examination of the samples from the vertical siding. The samples from the vertical siding were harder to match to due to their friable condition.

As previously discussed, the dates ascribed to particular paint layers are based on documentation and physical evidence. The paint color applied to the exterior after the barn was converted to a garage and residence ca. 1947 was apparent on the building materials applied during that conversion (fig. 45). During the stewardship of the TRA, records indicate that the building was painted ca. 1952 and ca. 1957. The paint evidence indicates that both of these exterior applications were a gray- colored paint. However, the dark green paint found on all elements sampled may date from the end of the TRA period or the beginning of the NPS period. As described in the section "Alterations," it appears that the NPS painted the New Barn about every five years. Photographs and maintenance contracts were useful in determining some of the dates.

The exterior paint analysis determined that the New Barn was often painted a gray color, though the exact shade of gray varied over time. The Munsell colors specified for the gray paint colors in Table II were matched to the ca.- 1907 and ca.- 1919 paint layers, as well as the ca.- 1947 paint layer. The ca.- 1907 and ca.- 1919 paint colors are representative of the New Barn's exterior appearance during the site's association with Theodore Roosevelt. The ca.- 1947 paint color match represents the color used on the exterior of the barn after it was converted to a garage and living quarters. The ca.- 1947 paint color is still within the period of significance for Sagamore Hill, but the earlier colors are representative of the exterior paint color during the Theodore Roosevelt period, which is the focus of interpretation at the site. Gray was the color chosen for the New Barn by Theodore Roosevelt, and the restoration of the original exterior elements should include the application of a gray colored paint that is specified in Table II.

TABLE I. EXTERIOR ELEMENTS

SAMPLE	P001 & P006	P002 & P004	P010	P011
ELEMENT	Cornice molding & soffit Ca. 1907	Horizontal siding & soffit molding Ca. 1947	Window casing W103 (typical) Ca. 1947	Vertical siding Ca. 1907
SUBSTRATE	Wood	Wood	Wood	Wood
Ca. 1907	off- white light gray			off- white light gray
	dark gray			dark gray
Ca. 1919	dark gray			dark gray
	dark gray			
Ca. 1947	off- white gray	off- white gray	off- white gray	covered with clapboard siding
Ca. 1952	gray	gray	gray	
Ca. 1957	gray	gray		
Ca. 1963	dark green dark green	dark green dark green	dark green dark green	
Ca. 1970	gray gray	gray gray	off- white	
Ca. 1975	off- white gray/putty	off- white gray/putty	green	
Ca. 1980	light gray	light gray	green	
Ca. 1985	light gray light gray	light gray light gray	green green	
Ca. 1989	white off- white	white off- white	gray	
Ca. 1993	gray	gray	gray	
Ca. 1998	light gray blue- gray	light gray blue- gray	light gray blue- gray	

Table II. Finish Color with Munsell Color System Notation and Swatch[3]

Exterior Elements Ca. 1907	Munsell Color System Notation & Swatch
Vertical Shiplap Siding, Cornice Molding, Soffit.	**N 6.5** (Light Gray) 
Exterior Elements Ca. 1919	**Munsell Color System Notation & Swatch**
Vertical Shiplap Siding, Cornice Molding, Soffit.	**N 3.75** (Dark Gray) 
Exterior Elements Ca. 1947	**Munsell Color System Notation & Swatch**
Horizontal Clapboard Siding, Exterior Trim including: Cornice Molding, Soffit & Soffit Molding, Window Trim, Window Sash, Porch Elements.	**N 6.0** (Medium Gray) 

[3] The color swatches on this page are reproduced from digital images. For the accurate color matches see the attached sheet with the Munsell color swatches.

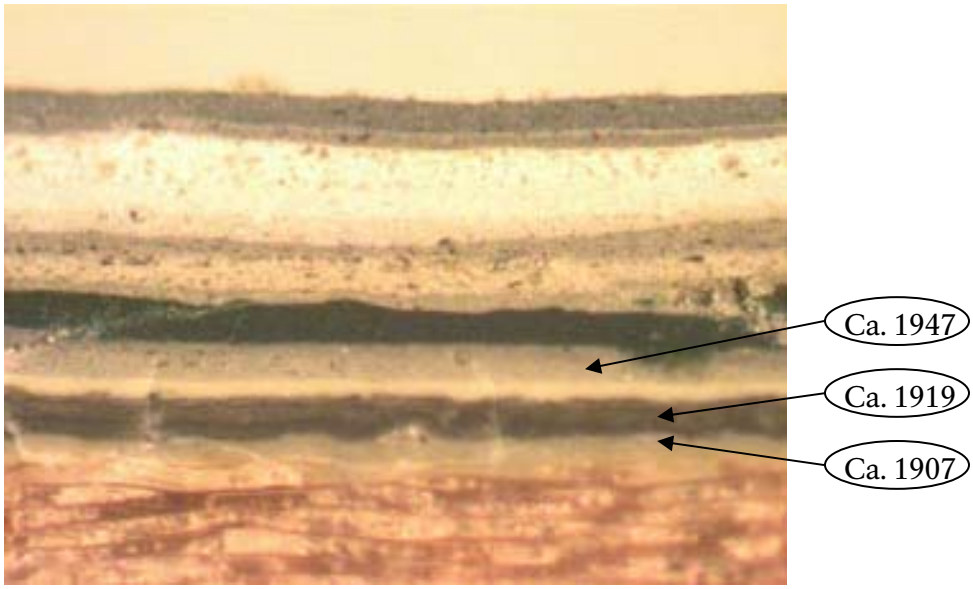


Figure 44. Cornice molding paint sample (P001), 2005.

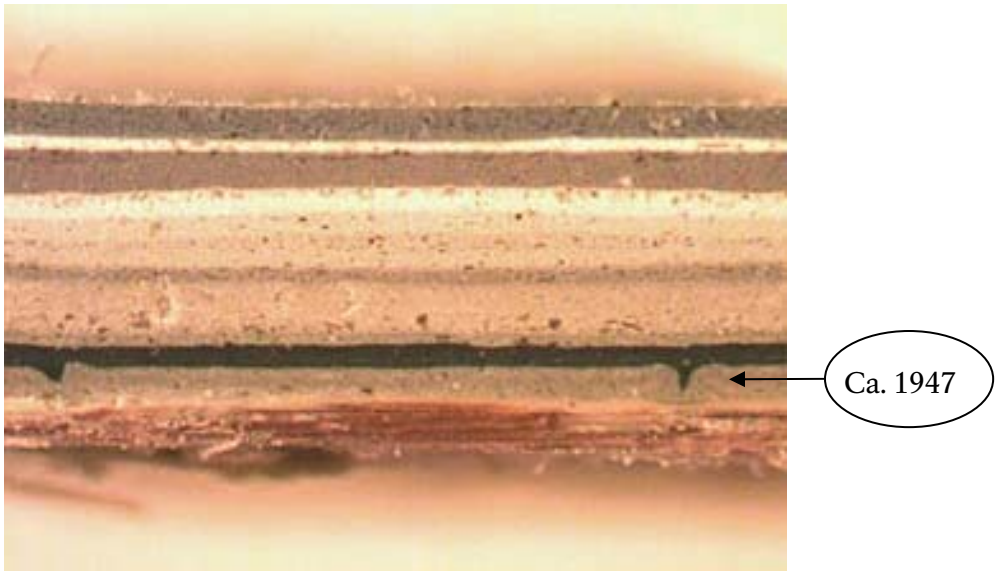


Figure 45. Horizontal clapboard siding paint sample (P004), 2005.

National Park Service
U.S.Department of the Interior

Historic Architecture Program
Northeast Region
Boott Cotton Mills Museum, 4th Floor
115 John Street
Lowell, MA 01852

EXPERIENCE YOUR AMERICA ™
Cover photograph - New Barn, north elevation, ca. 1907 (SAHI NHS, no. 1114).