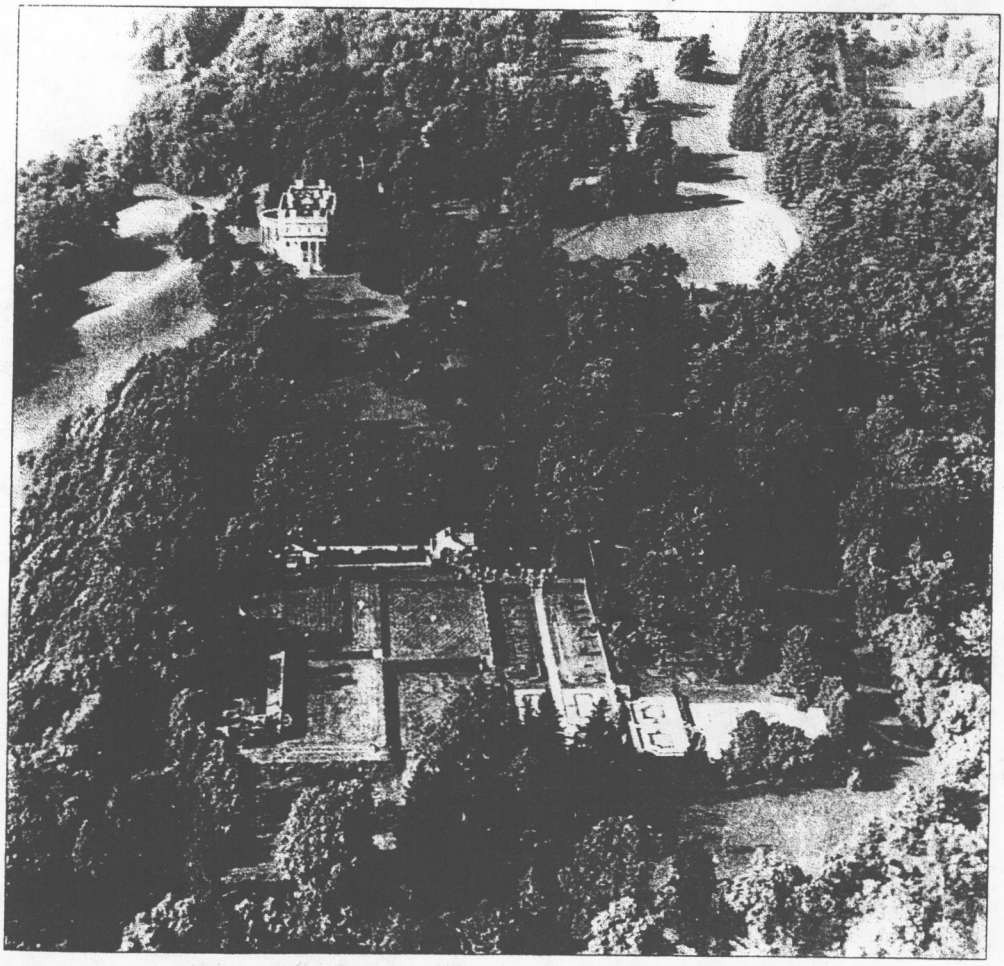
CULTURAL LANDSCAPE REPORT FOR VANDERBILT MANSION NATIONAL HISTORIC SITE

DRAFT

Volume 2: Landscape Preservation Treatment Recommendations



Cultural
Landscape Program

Division of Cultural
Resources Management

North Atlantic Region

National Park Service

U.S. Department of
the Interior

CULTURAL LANDSCAPE REPORT FOR VANDERBILT MANSION NATIONAL HISTORIC SITE

DRAFT

VOLUME 2: LANDSCAPE PRESERVATION TREATMENT RECOMMENDATIONS

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CULTURAL LANDSCAPE PUBLICATION NO. 5

National Park Service
North Atlantic Region
Division of Cultural Resources Management
Cultural Landscape Program
and
ROVA Staff

Boston, Massachusetts

April 30, 1994

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DRAFT

"...the place so far as open spaces, lawns, etc., are concerned should remain permanently in present condition. . .When it is estimated that an existing tree has an estimated additional length of life of 25 years or less, another tree, preferably of the same variety, should be planted at once as close to the original tree as possible. . . we do not want to lose the general character of the present planting and it is always possible that half a dozen key trees near the house might die almost simultaneously." Franklin D. Roosevelt to Mr. Burlew, August 12, 1940

"As you know, I have always thought of the Hyde Park place with the greatest interest and affection because with the exception of one or two old Van Rensselaer or Livington places, it is the only country place in the North which has been well kept up for nearly two centuries. . . It would be a wonderful thing to have the maintenance of it assured for all time." Franklin D. Roosevelt to Mrs James L. Van Alen, September 30, 1939

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FOREWORD

"The landscape, for those who know how to read it, is the richest historical record we possess." W.G. Hoskins, The Making of the English Landscape, 1955.

Cultural landscapes are an important part of our national heritage. As observed by W.G. Hoskins, landscapes are cultural resources because they are a record of our history, our relationship with the natural world, and our ideals of beauty and quality of life. Yet we know relatively little about the history of landscapes in the United States and only recently have preservation principles been applied to the protection and management of landscapes.

In the last several years, initiatives by the National Park Service have provided guidance on identifying, evaluating, and managing our nation's landscape resources. In 1990, we established a Cultural Landscape Program in the North Atlantic Region, as part of this nationwide effort. The goals of the Regional Cultural Landscape Program are to enhance our understanding and management of the landscape resources under our care and to provide training and professional development for staff with stewardship responsibilities. Under the direction of Nora Mitchell, the Cultural Landscape Program has, over the last four years, made significant advancements towards these objectives.

This report, the fifth in our new publication series, will serve as a guide to the management and treatment of the Vanderbilt Mansion National Historic Site and represents an example of our commitment to excellence in this program. The National Park Service staff from the park and the regional office, and the project consultants are to be commended on this thorough, insightful report. We hope that information shared through this publication series will also assist the wider preservation community as we all work to preserve our nation's landscape heritage.

Marie Rust
Regional Director
North Atlantic Region
National Park Service
Boston, Massachusetts

PREFACE

The establishm[illegible] of this new Cultural Landscape Publication Series is an important milestone for the North Atlantic Region's Cultural Landscape Program. The series includes a variety of publications designed to provide information and guidance on cultural landscapes to managers and other preservation professionals.

The Cultural Landscape Report for the Vanderbilt Mansion National Historic Site is the fifth publication of this series. In this document, Volume 2: Landscape Preservation Treatment Recommendations, developed site-specific management goals building on the extensive studies conducted in Volume 1: Site History, Existing Conditions and Analysis. These four major sections of a Cultural Landscape Report--site history, existing conditions, analysis and treatment plan--are precursors to initiating treatment. Although this methodology is transferable to all types of landscapes, each landscape's unique history requires examination to develop site-specific preservation goals.

It has been a pleasure working with the professionals from LANDSCAPES and Zaitzevsky and Associates on this report. Cooperation and substantive contributions from the park staff were instrumental to the project's success and will continue to be critical to the ultimate success of this landscape preservation effort.

Evaluation and management of cultural landscapes challenge us to view a historic property as a whole, not piece by piece. To do this successfully, the many features of the landscape must be understood in relation to each other and to their local or regional context. This cultural landscape perspective can integrate disciplines and unite professionals in the development of a preservation strategy for a historic property. In the long run, this holistic approach may be one of the most important legacies of landscape preservation.

Nora Mitchell
Manager
Cultural Landscape Program
and
Series Editor
Cultural Landscape Publication Series
North Atlantic Region
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Boston, Massachusetts

ACKNOWLEDGMENTS

The cooperation and efforts of many individuals were required to complete this project. Thanks are extended to each individual who played a role in this work.

Invaluable to the project success were the following staff members of the National Park Service at the Vanderbilt Mansion National Historic Site and Bellefield, Hyde Park, New York: Diane Dayson, Superintendent; Duane Pearson, Former Superintendent; James Brown, Former Deputy Superintendent; Henry Van Brookhoven, Chief of Maintenance; David Hayes, Biologist; Ronald Galente, Supervisory Horticulturist; Steve Hanaburgh, Tree Worker; Anne Jordan, Chief Curator; Craig Jessup, Museum Specialist; Bill Urbin, Museum Technician. The Superintendent Diane Dayson, the Former Superintendent Duane Pearson, Former Assistant Superintendent James Brown and their able staff contributed time and effort to the project by providing information, attending meetings and reviewing each progress submittal. David Hayes served as on site primary project contact and was invaluable through the course of the project. The grounds and maintenance department heads, Ronald Galente and Henry Van Brookhoven, contributed their insights on the maintenance issues of the property and aided in developing the cost estimates . The museum service division staff members, Anne Jordan, Bill Urbin, and Craig Jessup, were instrumental in providing access to the archival materials and aiding in the review of these historic materials. Other members of the staff participated in minor ways during the course of the work and their efforts are acknowledged.

At the National Park Service, North Atlantic Regional Office in Boston, Massachusetts, Nora Mitchell, Cultural Landscape Program Director served as project leader for the NPS, providing support and direction throughout the project. Heidi Hohmann, Cultural Landscape Architect, served as the primary technical staff.

The project team for the consultants included Patricia M. O'Donnell, Cynthia Zaitzevsky, Barbara A. Wilson and Peter Viteretto. The principal author of the report is Patricia M. O'Donnell, principal of LANDSCAPES. Cynthia Zaitzevsky provided oversight in the role of project historian. Barbara Wilson participated in the editing, revisions, and report production. Peter Viteretto contributed to graphic support and estimate calculations.

EXECUTIVE SUMMARY

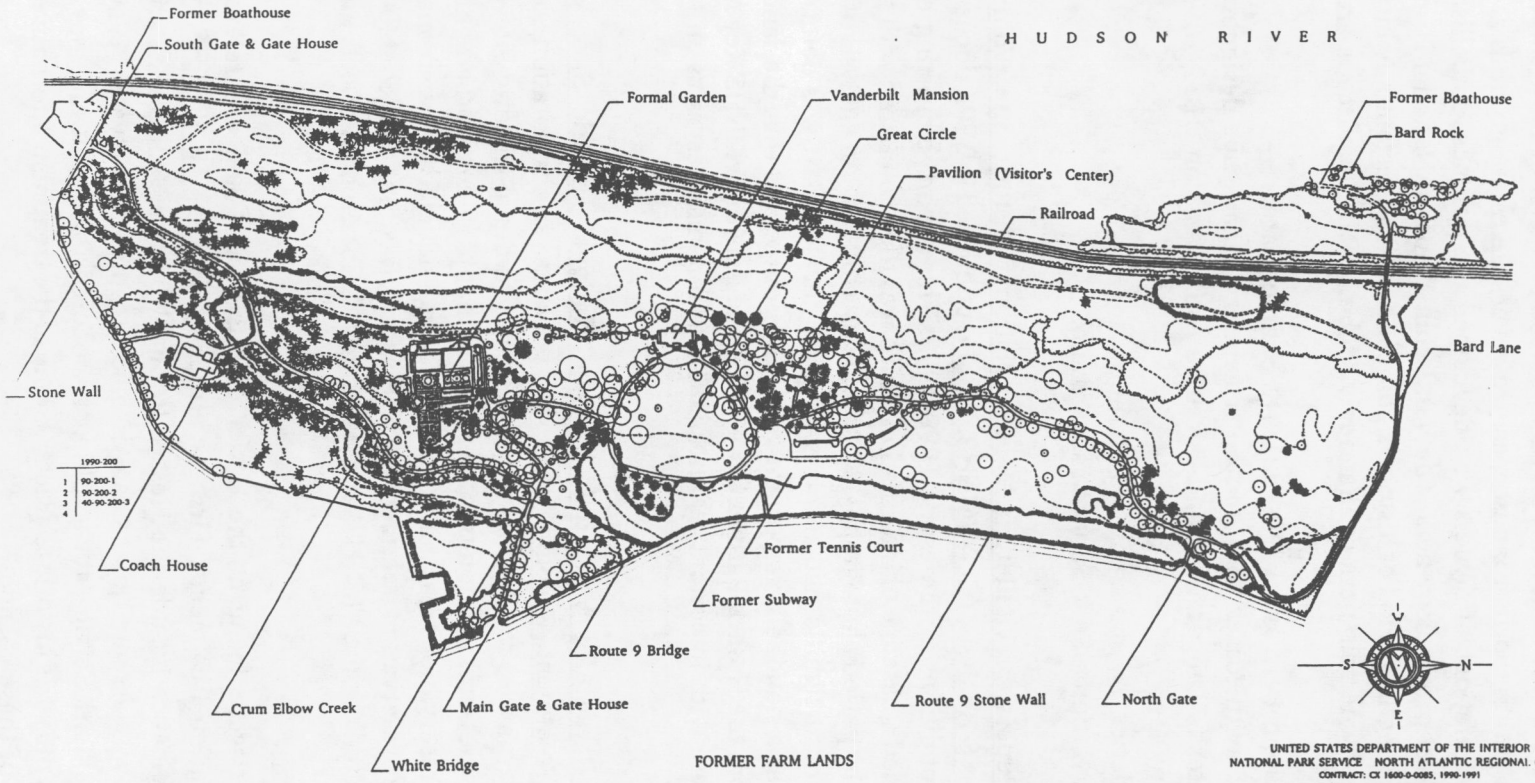
Located in Hyde Park, Dutchess County, New York, the Vanderbilt Mansion National Historic Site, is a 211 acre landscape with a two hundred year history. The scenic Hudson River Valley has a number of notable estates with important landscapes. However, the estate grounds at Hyde Park bear the imprint of five generations of owners who developed the grounds, embellishing rather than obliterating the work of previous owners. The Vanderbilt Mansion National Historic Site is a layered landscape with a lengthy period of historic significance and a substantially intact imprint of the former owners. The ownership periods that apply to the VMNHS landscape are:

- 1764-1799, Dr. John Bard and 1799-1821, Dr. Samuel Bard;
- 1828-1835, Dr. David Hosack with Andre Parmentier as landscape designer;
- 1840-1852, Walter S. Langdon, Sr. and Dorothea Astor Langdon, 1852-1895, Walter Langdon, Jr., Langdon;
- 1895-1938, Frederick W. and Louise Vanderbilt;
- 1940-to present, National Park Service stewardship.

The Cultural Landscape Report for Vanderbilt Mansion National Historic Site, Volume 1: Site History, Existing Conditions & Analysis, (CLR VMNHS, Vol. 1), published in 1992 documented and inventoried the existing conditions of the estate 1990-1992. This report, consisting of exhibits, photographs and text, formed a baseline of information which was then compared with the historic conditions as documented by period photographs, plans and descriptions. An analysis of continuity and change and a statement of significance and integrity was developed. It was determined that the VMNHS is significant as a nationally important cultural resource and that the landscape has a high level of integrity from the Hosack-Parmentier period. The Existing VMNHS Key Map shows the former Vanderbilt Estate with important features labeled. This map serves as an orientation to the property.

This Cultural Landscape Report for Vanderbilt Mansion National Historic Site, Volume 2: Landscape Preservation Treatment Recommendations, presents an exploration of primary preservation treatment alternatives for the Vanderbilt Mansion National Historic Site (VMNHS). A "primary" (or property-wide) preservation treatment is one that provides a broad philosophical framework within which preservation treatment decisions for individual features are made. In this document the four possible preservation treatments--Preservation, Restoration, Rehabilitation, and Reconstruction--are evaluated for the VMNHS landscape, and their potential effects and impacts are assessed.

A number of assumptions were made at the outset of this project and are relevant to the exploration of all preservation treatments. First, as presented in the CLR VMNHS, Vol. 1 the property's periods of significance include the Hosack through the late Vanderbilt periods, from 1828-1938. Therefore, it was assumed that changes made to the site between 1940 and the present, during the National Park Service stewardship, are not of historic value and may, in certain instances, negatively affect the site's historic character. Some of the treatment alternatives consider the removal or relocation of these changes.



UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE NORTH ATLANTIC REGIONAL OFFICE
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CULTURAL LANDSCAPE REPORT:
SITE HISTORY, EXISTING CONDITIONS & ANALYSIS
VANDERBILT MANSION
NATIONAL HISTORIC SITE
HYDE PARK, NEW YORK

0 100 200 500 1000

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EXISTING VMNHS KEY MAP
(1990-1991)

Second, although the site's overall integrity is quite high--much remains of the imprints of previous owners--over the past 50+ years a significant amount of deferred maintenance and deterioration has occurred. Reversing the cumulative effects of this deterioration, which began with resource and staffing shortages experienced during World War II, will require significant interventions which go beyond preservation, maintenance, and repair.

Third, all alternatives were explored within the context of the site's enabling legislation and most recent master plan from January 1976, the Final Master Plan, Vanderbilt Mansion National Historic Site. These documents state that the site was given to the United States for "preservation as a memorial" to Frederick W. Vanderbilt. The Final Master Plan further states that the purpose of the park is threefold: to explain the significance of these wealthy Americans and their historic era; to inform future generations of the estate lifestyle of the Vanderbilt's and other wealthy people; and to illustrate a phase of human interaction with the environment. Within this mandate, the 1976 Final Master Plan states that the treatment of the site's historic resources will be "aimed at preserving and/or restoring the historic buildings, their contents, and the grounds, and at recreating the environment which Mr. and Mrs. Vanderbilt knew."

The initial results of the exploration of treatment alternatives are summarized below.

Preservation. The selection of Preservation as a primary treatment would essentially maintain the existing conditions on the property with a low level of intervention within the cultural landscape. Given the site's mission to fully portray and interpret the estate during this period of significance, preservation is not an adequate treatment. For example, although deteriorated features could be repaired and stabilized, preservation would not provide for the replacement of lost character-defining features such as the plantings at the Main Gate. Preservation would also not recapture the Hudson River vista in the magnitude that has been considered in the past. **Therefore, although a viable option, Preservation is not recommended as a primary, property-wide treatment.**

Rehabilitation. Rehabilitation is a treatment that is generally directed by contemporary use considerations. Although this property's use changed from private to public use upon its addition to the National Park System, the impacts of contemporary usage have been and will be limited to those due to changes in access and interpretation, according to NPS staff. **The level of intervention required on the VMNHS landscape to accommodate these changes is not considered intensive enough to warrant Rehabilitation as a primary landscape preservation treatment.**

Reconstruction. Because the VMNHS landscape retains much of its historic fabric and many of its character-defining features, **Reconstruction is not appropriate as a primary treatment for this property.** However, reconstruction, which requires extensive documentation, may be an appropriate treatment for individual features under a primary treatment of Restoration (see below).

Restoration. A Restoration treatment would restore the site to the end of its period of significance (ca. 1938--the end of the Vanderbilt period) through the stabilization, repair, and replacement of missing character-defining features. Individual projects within this treatment would include

reintroduction of original path materials, replanting of missing foundation plantings, recapturing of historic vistas, and replacement of missing specimen trees. The restoration of the Formal Gardens would also be undertaken, reinstating lost plant materials, fences, walks and furnishings. Careful consideration would be given to the appropriate level for reconstruction for the missing greenhouses.

Restoration is recommended as the primary, property-wide treatment for the VMNHS landscape, because the specificity and accuracy of a Restoration approach address the programmatic and interpretive needs of the site as outlined in the site's Final Master Plan. In addition, lost and deteriorated landscape features are generally well-documented, limiting conjecture and making Restoration a feasible, as well as desirable, approach.

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Executive Summary

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I: LANDSCAPE PRESERVATION TREATMENT ALTERNATIVES

INTRODUCTION TO PRESERVATION TREATMENT

All the previous tasks in the Cultural Landscape Report For Vanderbilt Mansion National Historic Site, Volume 1: Site History, Existing Conditions, and Analysis form a basis for the work to be addressed in Phase 3. The focus of Phase 3, task 1 is the selection of a primary landscape treatment. A landscape preservation treatment approach for this property must address the site's lengthy period of significance--the Hosack ownership through the Vanderbilt years, 1828 to 1938. In this first task four alterative property-wide treatments are examined. These are preservation, restoration, rehabilitation and reconstruction. Each treatment requires differing levels of intervention in specific areas of the landscape.

Preservation treatment is defined in four, distinct approaches by the Secretary of the Interior. The verbatim text is taken from the most recent update of these terms used for all historic properties. The following preservation treatment definitions are excerpted from the brochure entitled: The Secretary of the Interior's Standards for the Treatment of Historic Properties, 1992, U.S. Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance Division. These are quoted as follows:

> **Preservation** is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.
>
> **Restoration** as defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.
>
> **Rehabilitation** is defined 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.
>
> **Reconstruction** is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

SELECTING A PRESERVATION TREATMENT FOR THE VMNHS CULTURAL LANDSCAPE

The Designation Order for the Vanderbilt Mansion National Historic Site indicates that the estate was a property regarded as "representative and illustrative of their period and hence of national significant in the economic, sociological, and cultural history of the United States," and that it was given to the United States by Margaret Van Alen "for preservation as a memorial to her uncle,

Frederick W. Vanderbilt". The original site mandate address three purposes: 1. explaining the significance of these wealthy Americans and the era they represent, 2. informing the public of the lifestyle of the wealthy Vanderbilt's at this estate, and 3. illustrating a phase of human interaction with the environment. The 1976 Final Master Plan for VMNHS indicates that, within staffing and budgetary restrictions, the management intent is to preserve and in that context not to "modernize" the historic resource. The overriding NPS mandate is to "...preserve, protect and provide for the enjoyment by such a manner as will leave them unimpaired for future generations".

A primary landscape preservation treatment for VMNHS should promote this park mission by defining a broad preservation approach to the entire 211 acre site and providing an overall philosophical framework for the long-term treatment, management and interpretation of the cultural landscape. The rationale for the primary treatment is based on the analysis of integrity and periods of significance (from Hosack to Late Vanderbilt Periods, 1828-1938) for the site determined in CLR VMNHS, Vol. 1.

An initial meeting with NPS North Atlantic Region and VMNHS staff and the consultant brought forward a number of issues and concerns that are directly related to future preservation treatment. These include, but are not limited to, the following:

- infrastructure problems, such as failed drainage in the lower meadows, and inadequate water supply at the Formal Gardens which may require drilling of a well;
- visual relationships within the property especially as related to vegetation edges;
- documentation and appropriate treatment of remnant vegetation features such as the Redbud plantings south of the Formal Gardens;
- Hudson River vistas (both those framed within the site and those encompassing distant views), the related issues of preservation of the surrounding area as a setting for VMNHS, and the relationship of the Lower meadows and woodlands to these views requiring treatment of volunteer plant materials;
- materials and detailing for property circulation system drives, bridges and pedestrian paths, especially as related to the pending Federal Highways project to address paving, curbs and upgrading of the White Bridge;
- deterioration of the Route 9 stone wall and the three stone and iron entrance gates;
- altered spatial organization, lost greenhouse structures, partial restored plantings, lost fencing and vine arbors, deteriorated statuary and other objects that served as garden furnishings, animal pests, drainage and other issues addressing the Formal Gardens.

This list of issues is a partial basis for the discussion of preservation treatments. Note that no significant changes to the existing circulation, parking, public access or accessibility are indicated. The meeting also brought out the development of an interpretative approach to the landscape. Using the CLR VMNHS, Vol. 1, as a basis, a guided tour of the property has been developed by the interpretive staff. Historic landscape interpretation is an issue that should be addressed in all treatment strategies.

The diverse existing conditions within the VMNHS landscape were well documented in the CLR VMNHS, Vol. 1. An understanding of these conditions and the historic record is a basis for the consideration of each preservation treatment alternative. The four treatment alternatives--preservation, restoration, reconstruction and rehabilitation--are each examined in the following

discussion. This exploration clarifies the issues and choices relevant to treatment selection, both for the entire site and for individual features.

The organization of the property into landscape treatment units, as developed in the analysis of the CLR VMNHS, Vol. 1, is used as a framework for discussing the areas of the property, when this is helpful. These treatment units may be refined in relation to the selected treatment approach and in consideration of the character-defining features of these sub-areas of the larger landscape including topography, vegetation, visual enclosure, etc. A graphic representation of these preliminary treatment units is included as **Exhibit 30: Treatment Units 1993-1994.**

The discussion of treatment options is followed by a recommendation for a primary treatment, that is relevant to both the existing conditions within the landscape and the legislative mandate for the VMNHS property. In addition, a review of the project directives the natural and cultural resources developed in recent years at VMNHS has been carried out. A summary of these directives from 1991, 1992 and 1993 is included as Appendix A.

BASIS IN INTEGRITY, SIGNIFICANCE, PERIODS OF SIGNIFICANCE & EXISTING CONDITIONS

The issues of historic landscape integrity, significance and the periods of significance are all important aspects to keep in mind when considering a preservation treatment. The following excerpts from the CLR VMNHS, Vol. 1 are included here because they contribute to the process of considering landscape preservation treatment.[1]

Historic Landscape Integrity

"The strongest basis for an evaluation of integrity is the deciphering of identifiable components of the original design. In this chapter numerous exhibits have been presented to reveal these identifiable components including the continuity of topography, vegetation, natural systems, circulation, landscape structures, some site furnishings and objects, water features, spatial relationships, siting of major buildings and the scenic vistas to the surroundings. . . Overall the estate property conforms, in great part, to the spatial organization, vegetation massing, and topography established by or present during the Hosack-Parmentier period. Features added by Langdon and Vanderbilt have value in their own right, and contribute to the historic character of the property. . . The property has not been compromised by irrevocable changes. While some additions and losses to the property have been identified, they do not significantly compromise the integrity of the whole. In addition, these losses and additions are potentially reversible, which would allow for their correction in order to further reinforce the integrity of the property. The character-defining features of the landscape from the Hosack-Parmentier, Langdon and Vanderbilt periods are substantially intact today indicating a high degree of integrity overall with opportunities for repair, reconstruction, and replacement in the future to increase integrity."

Significance of the VMNHS Landscape

"The landscape of the Vanderbilt Mansion National Historic Site is significant as a nationally important cultural resource in its own right. . . The Hosack-Parmentier landscape is a leading example of an early picturesque style of landscape design introduced from European sources which became popular in this country between ca. 1825 and the Civil War, when it was gradually supplanted by

more Victorian and gardenesque styles of landscape development. A limited number of early picturesque style estate landscapes were developed during this thirty year period. The picturesque style was particularly suited to the naturally romantic scenery of the Hudson River Valley. . . Of the thirty-nine landscapes described by Downing in the Treatise, the only remaining example of the early picturesque, that is substantially intact, is the Vanderbilt landscape (see Appendix E). This rarity makes the property all the more unique."

Periods of Significance

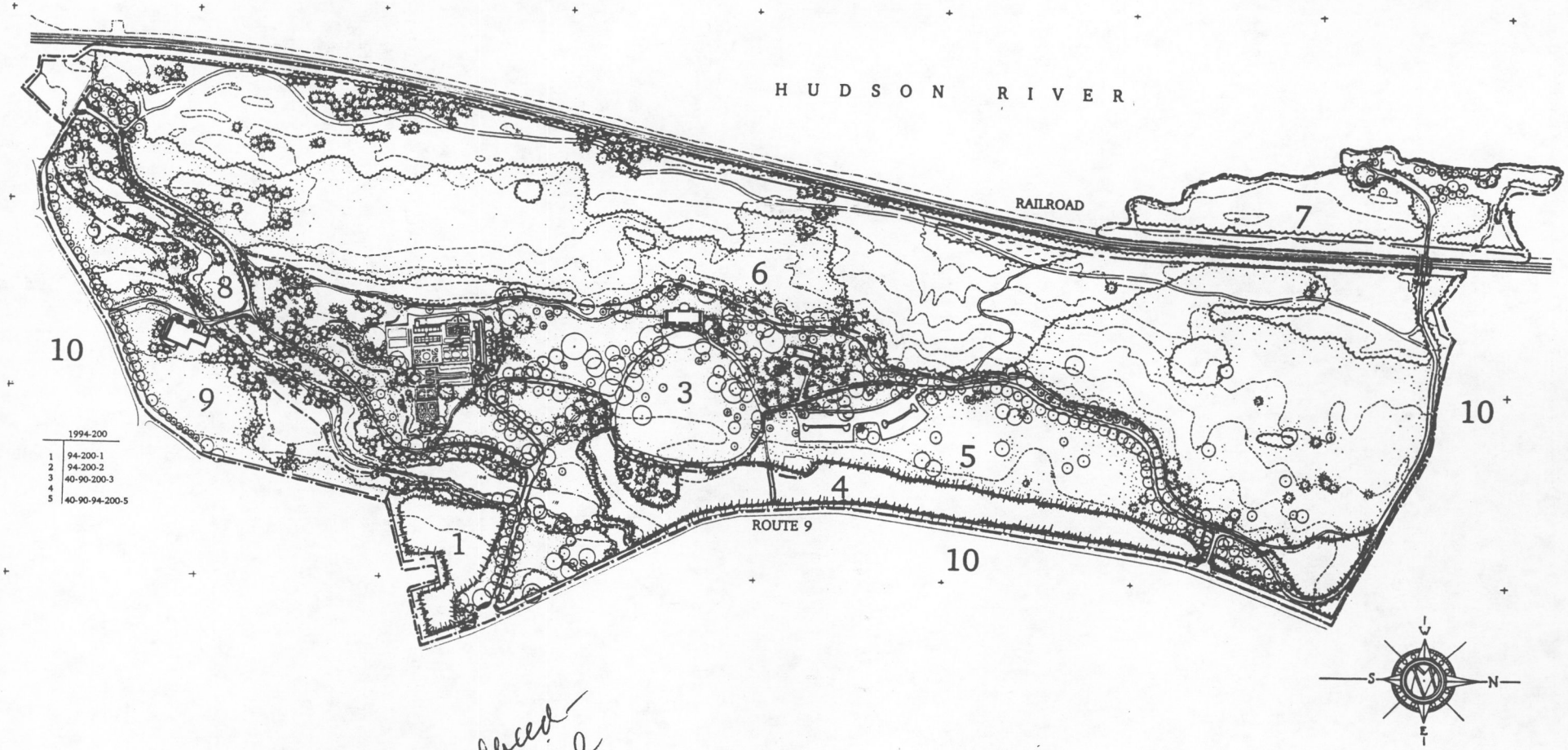
"The landscape of the Vanderbilt Mansion National Historic Site is a remarkable resource that still reflects the eras of its four distinctive owners and evokes their attitudes toward the ideal country estate. Over a period of more than 150 years, the Bards, Hosack, the Langdons, and Frederick W. Vanderbilt all left their mark, although Hosack's was the most lasting in terms of the landscape. The Langdons and Vanderbilt preserved the landscape and added compatible features. As it exists today, the Vanderbilt Mansion National Historic Site is a rare environment that represents a strong original design, embellished by later owners to imbue qualities from each owner period to the landscape."

Summary of Integrity & Significance

"The chronology of continuity within the Vanderbilt landscape portrayed in the analysis exhibits and addressed in the text indicates that the Hosack-Parmentier landscape is substantially intact. The continuity of circulation from the Hosack period is unique and important. The extant Langdon and Vanderbilt structures and features are also of cultural value. The continuity of the specimen tree collection is unique as well, although some losses without replacement are evident, these and other losses can be replaced. The documentation of extant historic features, coupled with the retention of feeling and association from the historic period, forms the basis for the assertion that the estate has a high degree of integrity. Therefore, both a high degree of both significance and integrity are demonstrated by the Vanderbilt estate landscape."

Existing Conditions

In regard to existing conditions, the property is currently maintained to a good level by a modest staff. Over the entire period of NPS stewardship, from 1941 to the present, there has been deterioration and loss of character-defining features within the historic landscape due to insufficient funds or staffing. For example, the early years during World War II saw the steady deterioration and eventual loss of all the greenhouses and plantings within the Formal Gardens. The pedestrian paths connecting the Mansion, Pavilion and Formal Gardens, documented in Vanderbilt era surveys, are no longer evident. A number of furnishings, such as benches and garden ornaments, have also been lost. Other subtle changes in plant growth and scale relationships have taken place in the past fifty years. For example, over time the relationships of the woodlands and meadows has shifted significantly from the spatial organization documented in Vanderbilt period photographs and surveys. The grand views to the Hudson River have been changed in form and limit by this extensive growth. On the other hand, much of the historic specimen tree collection in the core area of the property is intact either with historic plant materials or replacements in-kind over the past 53 years. The drive organization reflects that of the Vanderbilt years. The existing conditions record the losses and deterioration as well as the survival of many features of this historic landscape.



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CULTURAL LANDSCAPE RESTORATION TREATMENT UNITS

1 Main Gate & Entry Sequence
2 Formal Gardens & Landscape Surround
3 South Lawn, Great Circle, Mansion & Pavilion Vista
4 White Pine Buffer, Tennis Court & Subway
5 North Lawn, Overlook Drive & Path
6 North Gate, Bard Lane, Lower Meadows & Woodlands
7 Bard Rock, Meadows & Woodlands
8 River Gate, Crum Elbow Creek & Woodlands
9 Coach House Meadows
10 Perimeter Walls
11 Property Drives

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE NORTH ATLANTIC REGIONAL OFFICE
CONTRACT: CX 1600-0-0085, 1990-1994

CULTURAL LANDSCAPE REPORT: LANDSCAPE PRESERVATION TREATMENT
VANDERBILT MANSION NATIONAL HISTORIC SITE
HYDE PARK, NEW YORK

0 100 200 500 1000

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30: TREATMENT UNITS
1993-1994

PRESERVATION AS A PRIMARY TREATMENT

As an historic landscape treatment Preservation seeks to sustain the form and materials that exist today. The level of integrity, the authenticity of the historic identity of the property, would remain as we find it today. The current integrity of the property is described in the Phase I and II report as "high" with the layered identity from the Hosack-Parmentier period through to the late Vanderbilt period revealed in the remaining character-defining features of the landscape. While the overall organization and historic character of the landscape remains, over time a significant amount of deterioration has taken place, blurring details and causing some outright losses of features.

Preservation treatment focuses on protection, stabilization, ongoing maintenance and repair. Ongoing maintenance of the Eastern Hemlock trees on the property to suppress the wooly adelgid infestation is an example of a current Preservation treatment. Replacement of trees in-kind as they are removed is also a preservation treatment that is currently applied. Preservation as a treatment implies a level of intervention that is more modest and addresses the operations required to safeguard the existing resources. Extensive replacement, additions or new construction are not applicable to a preservation treatment. The selection of a preservation treatment also implies that the character-defining features of the landscape are intact and portray the historic identity of the property effectively as they exist today. With Preservation, changes to the property over time that are significant in their own right are retained. Changes over time that are not historically significant may also be retained if they are not encroachments that degrade historic character. All interventions to stabilize, conserve, repair or replace need to be undertaken at the appropriate level matching the level of deterioration. New materials are to match old in all aspects of design, color, composition and of physical and visual compatibility. These repairs or replacements should also be identifiable upon close inspection and documented as to scope and conditions requiring the work. Archaeological resources are generally preserved in place in a preservation treatment. Changes for contemporary uses such as universal access and interpretation are discussed below in section H.

Applying the Preservation treatment approach to each section (#1 to #11, see **Exhibit 30: Treatment Units 1993-1994** for visual reference) of the VMNHS landscape clarifies the implications of this approach. The features found within each section of the landscape are enumerated and the implications of their treatment under a Preservation selection are noted.

Preservation of the Main Gate & Entry Sequence

The Main Entry walls and gates would be stabilized and repaired. This project could include cleaning, repointing of stone, stripping and repainting of iron gates. It would likely not include disassembly and complete rebuilding. The plantings related to this curved wall, wholly lost today, would not be replanted in a preservation treatment.

White Bridge and the Bridge over Route 9 would be repaired retaining the maximum feasible amount of original materials. This work would be as modest in scope as possible and would attempt to slow the deterioration of remaining original materials. Upper Crum Elbow creek shores would be stabilized if and as needed and the Creek would be retained as existing. The dam under the White Bridge would be repaired or stabilized to remain functional. The cascade under the Route 9 bridge would be retained as existing or repaired and stabilized if needed.

The Entry drive to the Great Circle and a portion of the drive toward the Coach House would be retained and repaired as needed. The Hosack era footpath from the White Bridge to the Great Circle would also be retained and stabilized or repaired as needed.

The tree allee between the entry gate and the White Bridge and the informal tree plantings along the drive and footpath would be replaced in kind as they demise. No additions to these plantings would be made to portray an earlier period under a Preservation treatment.

Preservation of the Formal Gardens & Landscape Surround

The interventions in the Formal Gardens in the recent past have gone substantially beyond Preservation as a treatment. The rebuilding of the brick walls and pergolas was a reconstruction using some remaining historic materials and matching these in kind. The Lily Pond work was a significant intervention as well, likely falling into Restoration or Reconstruction as a treatment. The plant materials have been restored to an early NPS period with some modifications. The Rose Garden has been planted to modern rose varieties probably falling under a rehabilitation treatment since these plant materials were substitutes. The annual planting beds have been replanted to contemporary varieties in the past and now include both species shown in historic views and contemporary ones. Interior paths have been resurfaced with pea gravel, which may not precisely match the original paving surface.

Under a Preservation treatment the general approach of retention of what exists today and repair as needed would be followed. The topography, manipulated into steeply sloped terraces and supported by retaining walls, would be retained and kept in lawn cover for stability. The perimeter brick walls, pergolas and Rose Garden Pavilion would be maintained and repaired as needed. The former Greenhouses would not be replaced. The Gardener's Cottage and Toolshed would be retained and repaired as needed.

The Formal Garden drainage system could be cleaned and repaired to be fully functional. All treatments provide for the limited and sensitive upgrading of drainage and utility systems as needed to achieve function.

Interior paths and related stone steps would be retained as existing and repaired as needed. The "Telford paths" below grade would not be excavated to determine their composition and construction detailing. No other historic paths, lost in the current configuration, would be reconstructed. The exterior footpaths from the Mansion and down to Crum Elbow Creek Drive would also be retained in their current form.

The Lily Pond and the Rose Garden Fountain and their related sculptures would be stabilized and protected from further deterioration as necessary, but would not be significantly retooled or replaced in-kind in a preservation treatment. Display during peak season and removal and storage to a more stable environment during the balance of the year would also be a Preservation treatment approach, based on the goal of reducing environmental degradation.

Under a Preservation treatment the perennial flower beds and the roses, Cherry trees, vines and other woody plantings would be retained and protected from damage as they exist. Control of invasive and inappropriate plant materials and appropriate care and pest management to protect existing materials is recommended under this treatment in the Guidelines. Replacement of

vegetation in-kind is also considered appropriate when required. The replacement of historically accurate annual plantings on the required yearly cycle is also recommended, although this recommendation appears to be inconsistent with other Preservation interventions because it requires a higher level of intervention--the cyclic reinstatement of accurate historic plant materials. This approach of accurate replacement is more likely akin to Restoration (if remaining today) or to Reconstruction (if lost). The limitation of Preservation as a treatment is that it readily addresses replacement of lost historic plant materials in-kind when surviving, but does not address as clearly the replacement of lost historic plant materials in general, which is the major issue facing the Formal Gardens. However, Preservation as a treatment can apply to the limited replacement of lost elements within an overall composition, so that a modest level of replacement is included in a preservation approach. Again, the level of intervention being contemplated should be considered in the selection of a treatment.

Surrounding elements outside the garden walls are also included in this treatment unit because they create the near setting for the Formal Gardens. The former cutting garden and the former cold frames are substantially lost. These complete features would not be replaced in a Preservation treatment. The existing woody plant materials around the garden include: the Redbud grove on south knoll; Dogwood trees and Pine trees to north side; flowering shrubs and junipers to the south side; and a number of specimen trees in various locations. All these would be retained, protected, maintained and replaced in-kind when lost.

Preservation of the South Lawn, Great Circle, Mansion & Pavilion Vista

The South lawn and specimen trees, and the lawn and plantings between the Mansion and Pavilion would be kept and cared for appropriately and replaced in-kind when required.

The Hudson River vista along the ridge line west of the Mansion would be retained as existing today. Lost historic plants along this ridge would not be added. Potential changes to the lower meadows and woodlands that affect this vista would not be undertaken in a Preservation treatment.

The lost foundation plantings on the west side of the Mansion may not be replaced under a Preservation treatment, since this is an entirely lost feature. The widened asphalt paving arrival area in front of the Mansion would be retained as would the service drop off at north side of the Mansion. The drive configuration and materials would also be retained although NPS era changes may be reversed. Drive drainage would be repaired to be fully functional but would not be entirely rebuilt. Specimen tree plantings within circle and around perimeter in lawn would be retained and replaced in-kind as they demise.

The Pavilion drive entry and turnaround space, altered during the NPS years, could remain as existing or be removed and returned to the late Vanderbilt condition. Likewise, the NPS era pedestrian paths with related signage and lighting could also be retained and maintained under a Preservation treatment but since these features do not have historic value, they could also be removed as intrusions to the historic character. The path from the Mansion to the Formal Garden, somewhat realigned in the NPS era, would also be retained as it exists. The path segment dropping downhill with the related shrub planting would not be restored in this approach. At the north side of the Pavilion, the former drying yard would not be reconstructed.

Preservation of the White Pine Buffer, Tennis Court & Subway

White pine screen plantings along the west edge would be protected, cared for appropriately and replaced in-kind when lost under a Preservation treatment. In discussing this feature the design intent of screening the estate from Route 9 views and traffic noise should be considered. As the White pines mature they bare their lower branches, losing the screening effect. For this extensive pine planting, three rows of three successive generations were located to effect screening. The replacement strategy for this feature requires some discussion. The proximity of the plantings will likely not support the simple replacement of one lost mature tree with one new small tree because of light and nutrient competition. A more intensive treatment, removing a section of a row or an entire row may need to be undertaken to assure some level of success. This approach is aggressive, since the trees would be removed all at once, when mature but not dead. It is considered to be a more intensive intervention than a Preservation treatment would allow.

The Tennis Court grading area is still evident on the ground and the shape of the Pine Buffer highlights this rectangular area. These visible remnants of the Vanderbilt tennis court would be preserved. The Subway, created as an underpass for ease of access to the farm lands east of Route 9, remains as a feature with access through it blocked. Under a Preservation treatment it may be stabilized as required.

Preservation of the North Lawn, Overlook Drive & Path

The North Lawn and main visitor parking lot could remain under a Preservation approach, as could the Overlook parking and related benches and furnishings. Since these elements date to the National Park Service years, after the periods of significance, the removal of some of all of these elements could be undertaken within a Preservation treatment. The lawn and specimen tree plantings would be retained as existing and replaced in-kind as they demise. Documented lost plantings within the North Lawn would not be replaced under a Preservation approach. The pedestrian path along the ridge line to the west of the Overlook Drive has been lost over the years. Survey mapping exists and field investigation could be undertaken to locate the alignment of the path. The lost path could be interpreted but would not be restored under a Preservation treatment.

Preservation of the North Gate, Bard Lane, Lower Meadows & Woodlands

The North Gate appears to be the most stable of the three gates but still requires stabilization level intervention to repoint stone and to slow the deterioration of the iron gates. These low level interventions would be appropriate in a Preservation treatment.

The failed drainage system in the lower meadow would be repaired and brought to full function and the related damage to the topography would also be repaired to its earlier condition. More gently sloping areas and undulating meadows would continue to be machine mown and steep slopes would be hand cut under a Preservation approach.

Invasive vegetation can be removed and suppressed applying a Preservation treatment. However, drastic changes to the woodland vegetation to reshape the edges, reinstating the earlier form of the woodlands and meadows, would not be undertaken in a Preservation approach. Because of the intensity of the intervention required, this change to the earlier form would occur under a Restoration treatment. However, the suppression of invasive volunteer species within the woodlands could be carried out under a Preservation treatment. An effort to stabilize and improve

the ecological health and sustainability of the woodlands through suppression of Norway Maple, Oriental Bittersweet, Tree of Heaven, Black Locust and other inappropriate invasive species could be undertaken. With this suppression, Vanderbilt era species, primarily native plants, would have a greater opportunity to regenerate.

The remnants of the former trail, descending from the ridge through the woodlands to the lower Woodland Drive would be protected from loss. This might include some clearing of vegetation and stabilization of the remaining steps and path areas. The path, however, would not be rebuilt using a Preservation approach. The Bard trail along the ridge descending to the Crum Elbow Creek drive would be stabilized as required. The lower Woodland Drive would be retained as existing, with drainage and road surface repairs as required to maintain the road as a passable circulation feature.

Preservation of Bard Rock, Meadow & Woodlands

The bridge over the railroad, the visitor parking lot, and Bard Rock would all remain in their existing form under a Preservation approach. The narrow dirt path system through the woodlands would be retained and stabilized as required. Woodland vegetation would be retained as a woodland mass, without regard to individual trees, although species composition may be monitored and invasive species suppressed. Replacement of lost vegetation in-kind would not be undertaken. The former Boat House and dock sites would remain as they are today, as would the historic iron Boathook. The NPS era parking lot could remain or be removed under a Preservation treatment. If removed, the former open space, or meadow, would be reinstated.

Preservation of the River Gate, Crum Elbow Creek & Creek Woodlands

The deteriorated masonry walls and iron gates of the River Gate would be stabilized and repaired under a Preservation treatment, but lost shrub plantings in front of the gate walls would not be replaced. The existing Crum Elbow Creek drive and the pedestrian path to the Powerhouse would be retained and repaired as required to stabilize and continue access. The Cobblestone bridge over the creek would be inspected and repaired or repointed as required. The watercourse and creek banks would be retained as existing and repaired only in unstable or deteriorated areas. The mixed woodland vegetation would be retained as existing and could be left to grow and regenerate as existing or be managed to retain species diversity and suppress invasive volunteer plants.

Preservation of Coach House Meadows

The Coach House access drive and parking area would be retained as existing. The meadows, woodlands and individual trees along the perimeter wall would be retained and maintained with replacement in-kind as they demise. The lost spruce trees in front of the Coach House would not be replanted. The Coachman's House on the west side of the drive would not be reconstructed under a Preservation approach. The partially lost path from the Powerhouse to the Coach House would not be restored. The management of the meadows could change from short mown turf to taller mown meadow.

Preservation of Perimeter Walls
The perimeter walls to the south along Market Street, to the east along Route 9 and to the north wall along the property boundary would be repaired and stabilized where needed, but not entirely rebuilt under a Preservation treatment. The former iron fencing, which topped a portion of the stone wall along Route 9 and which was removed during World War II, would not be replaced in a Preservation treatment. The landscape edge from the wall to Route 9 was wider in Vanderbilt days and partial documentation for tree plantings between the public road and the wall is available. Increasing the grass and tree area to its historic size and organization would not be undertaken in a Preservation treatment.

Preservation of the Property Drives
The system of drives within the property, excluding the lower woodland drive, was developed in the historic manner as a coursed stone and gravel system, a Telford road. Oral histories refers to both stone dust, crushed stone or cinders as the top coarse. Physical evidence appears to indicate that the drives and paths were stone fines. Rather than addressing the treatment of the segments of the drive system that pass through each area of the property separately, consideration of these drives as a property-wide system is a comprehensive approach. Under a Preservation mandate the drives would be retained as existing and repaired as appropriate, with limited replacement of elements only where deterioration warranted.

The drive drainage systems would be cleaned and repaired to be fully functional. Preservation treatment provides for the limited and sensitive upgrading of drainage and utility systems as needed to achieve function.

RESTORATION AS A PRIMARY TREATMENT

Restoration as an historic landscape treatment seeks to accurately portray the character-defining features of the landscape at a period of time. Restoration may include the removal of features from other periods and the reconstruction of missing features from the restoration period although substantial physical and documentary evidence is required and minimal conjecture allowed. Contemporary alterations or additions are not generally included in this treatment, though issues such as universal access may be addressed.

In addressing the VMNHS landscape the periods of significance date from Hosack through Vanderbilt, 1828 to 1938. This lengthy period of significance, including the private ownerships spanning these dates, indicates that value is given to elements from each owner period. In application this would mean that remaining elements from each owner period would be respected and one feature or expression would not be removed to reinstate some earlier owner element because the layering of one owner over the earlier ones is understood and appreciated. The target restoration period would be the late Vanderbilt years. Interventions would be undertaken at the appropriate level matching the level of deterioration. New materials would match old in all aspects of design, color, composition and of physical and visual compatibility. As in Preservation, these repairs or replacements are intended to be identifiable upon close inspection and documented as to their scope.

In developing a restoration treatment, it is important to avoid reconstructing missing elements from earlier periods in settings from subsequent periods. For example, while a detailed sketch by Thomas Wharton shows the large urn on the Euterpe Knoll, the historic record, as understood today, indicates that this urn was lost prior to Vanderbilt ownership. The reconstruction of the urn in its original location (if it can be pinpointed) would create an anachronism within the landscape. In other words, features that never existed simultaneously would be presented together. Such a creation of anachronistic settings should not be undertaken. Therefore, only elements that were within the landscape at the end of the Vanderbilt period would be considered for replacement in the restored landscape.

A Restoration treatment also implies that changes during the National Park Service stewardship, from 1940 to present, are not of historic value. This may mean that accretions from the NPS period, that compromise historic features, would be documented and removed or relocated.

Applying the Restoration treatment approach to each section (#1 to #11, see **Exhibit 30: Treatment Units 1993-1994** for visual reference) of the VMNHS landscape clarifies the implications of this approach.

Restoration of the Main Gate & Entry Sequence

The Main Entry walls and gates would be fully restored. This project may include preservation and stabilization level work, such as cleaning, repointing of stone, stripping and repainting of iron gates. It may also include disassembly and complete rebuilding if these are required. The planting area and plant materials related to the curved, stone wall would be restored using documentation. Beyond the entry, along a currently wider Route 9, more green space was available during the historic period (Figures 1). There were plantings in this area that are partially documented on a 1890s survey. Some of these plantings could be restored if available space and safety considerations would allow.

White Bridge and the Bridge over Route 9 would be restored, still retaining the maximum feasible amount of original materials. The bridge needs significant upgrading for vehicle weights and the restoration may require a fully rebuilt deck although the bridge facades can be safeguarded during the deck replacement process. Again, efforts would be made to slow deterioration of remaining original materials, such as minor caulking to prevent further water infiltration. The Crum Elbow Creek shores may be planted to match historic views. The Vanderbilt widened Creek basin may require dredging in the future and historic plans of the bottom profile would be a source for taking the bottom back to an accurate level. The dam under the White Bridge would be restored to its historic appearance and full function (Figure 2). The cascade under the Route 9 bridge would be compared to historic views and altered, as required to reflect the historic appearance, as well as being stabilized.

The original curbs would be retained where possible and replicated where deterioration is to great and the drive materials would be returned to those of the historic period along the entry drive and Crum Elbow Creek drive that are within this treatment units, as well as elsewhere on the property. The Hosack era footpath from the White Bridge to the Great Circle would also be retained and restored as required, potentially only stabilized. (In a Restoration treatment the lowest level of intervention required should be pursued, which may match a Preservation approach when deterioration is minimal.)

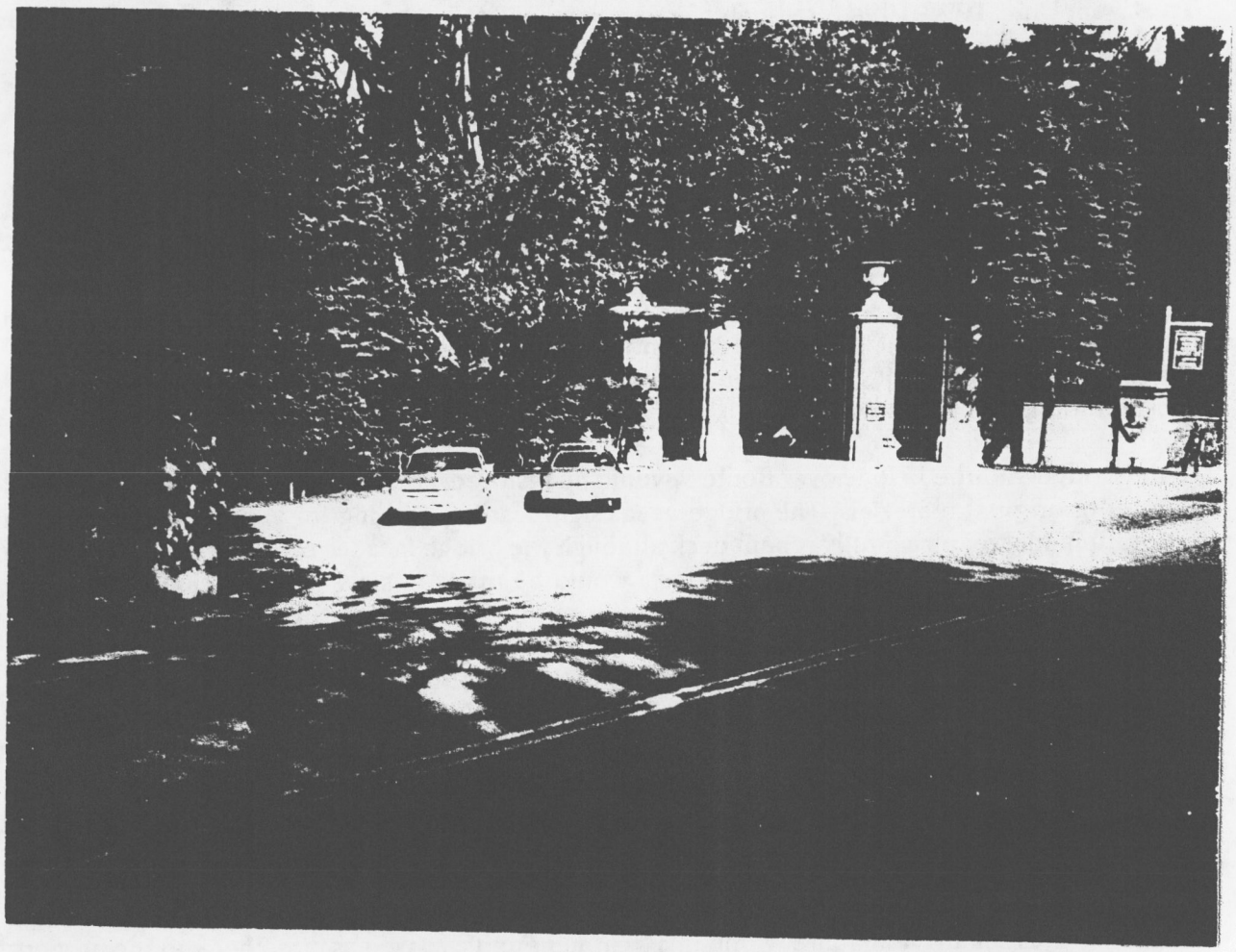


Figure 1. View of Main Gate from Route 9, ca. 1970, photograph from repair project. VMNHS maintenance file.

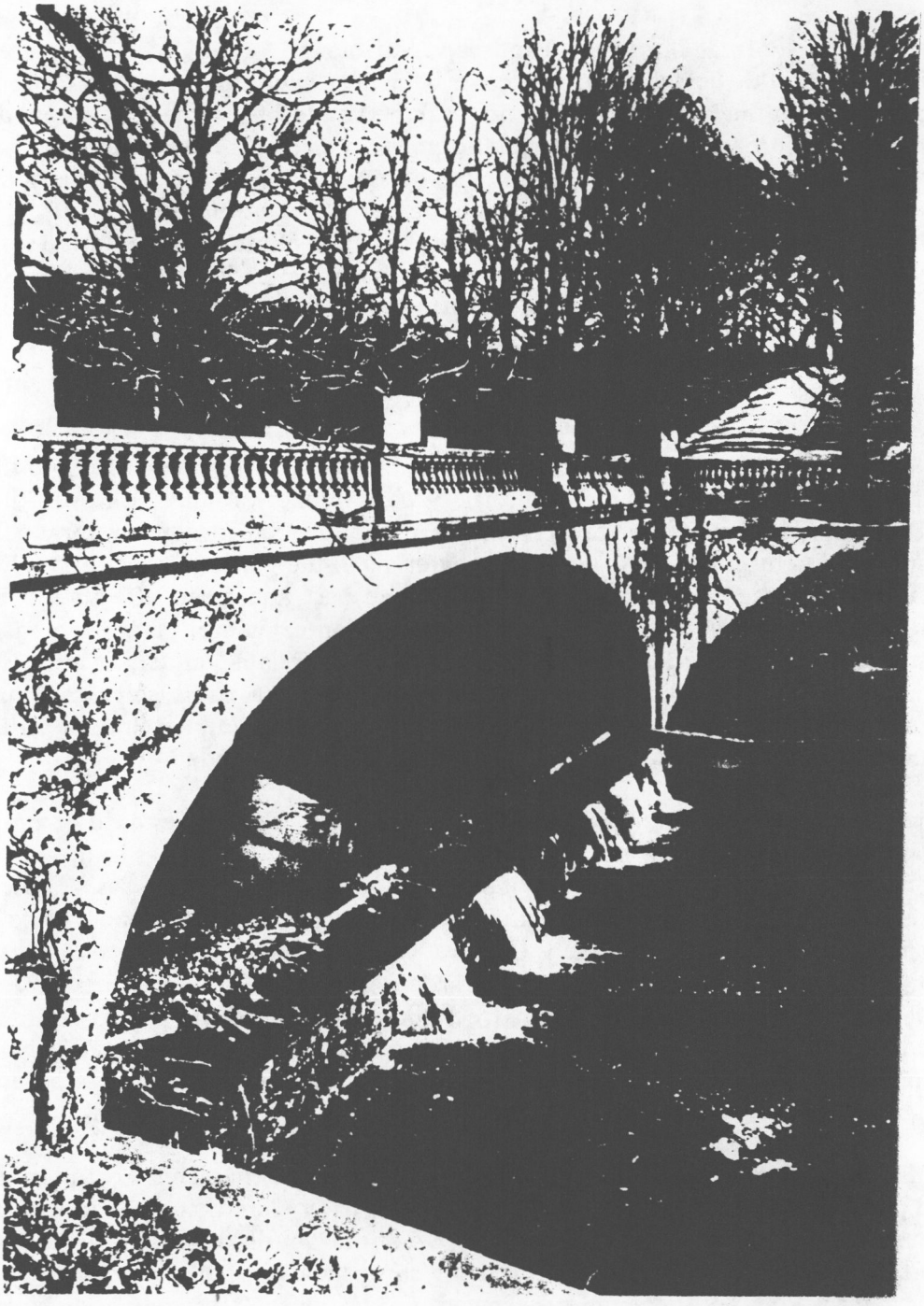


Figure 2. White Bridge and entrance drive from the edge of Crum Elbow Creek. Photograph by Shears, 1926. Elizabeth Shears Hambleton collection donated to VMNHS.

The tree allee between the entry gate and the White Bridge and the informal tree plantings along the drive and footpath would be replaced in-kind and missing trees shown in historic documents would be planted in their original locations in a Restoration treatment.

Restoration of the Formal Gardens & Landscape Surround

Many elements of the Formal Gardens have been lost over time, though recent efforts have replaced and rebuilt the brick wall surrounds and the Vanderbilt era pergolas, pool and fountains. In a Restoration approach some replacement of missing elements is recommended. Lost elements within the gardens include all the Greenhouses, a number of fences and vine hoops and many woody and herbaceous plantings (Figure 3). Much of the plant material currently in the garden is inaccurate to the late Vanderbilt era. However, plan and photo documentation is extensive and might make Restoration quite feasible. For example, construction level drawings, including details, exist for the Rose Houses and Carnation House and illustrative drawings are available for the twin Palm Houses. A series of Robert Cridland plans document the plant materials and masonry detailing for portions of the gardens while 1920s-1930s photographs augment this information (Figure 4).

A strict Restoration approach would address the extant garden features, including those salvaged from earlier removals. For example, the brick piers and fence around the Rose Garden could be restored using and replicating the few remaining piers and fence portions in storage. However, the amount of missing built elements and plant materials in the gardens is extensive. Therefore, the Formal Gardens present a special case that can be best addressed effectively. Based on the extensive historic documentation, including construction drawings, planting plans, details, and plant lists, the Formal Gardens could be brought to their late Vanderbilt appearance. In this treatment the entire garden area, with all its enclosing elements, paths, steps, structures and plant materials would be presented as documented to the end of the Vanderbilt ownership (see Figure 3). Elements that remain would be stabilized and repaired as needed.

The damaged sculpture in the Rose Garden fountain would be fully restored or replicated in the same materials if restoration is not possible. In considering the buildings in the Formal Gardens, another option would be to reconstruct one, but not all of the Greenhouses. A reconstruction of one greenhouse could be undertaken if it is deemed necessary to support the horticultural operations of the gardens now and in the future. One permanent greenhouse has been identified as a long term need for the F.W. Vanderbilt Garden Association to more effectively manage plant production for the gardens. All the other Greenhouse locations could be shown in footprint with stabilized earth and ghost framed to give a sense of their volume and spatial organization. This approach would both address the historic character of the space during the late Vanderbilt years and enhance visitor interpretation.[2]

The landscape surrounding the garden area is also part of its character. Lost plantings would be restored using historic documentation. The existing woody plant materials around the garden to be restored include: the Redbud/Dogwood grove on the south knoll (Figures 5 & 6); Dogwood trees and Pine trees to the north side; flowering shrubs and junipers to the south side; shrubs to the west; and a number of specimen trees in various locations. Existing plantings from the period, such as the over-scale evergreens behind the Rose Garden Pavilion, could be propagated and replaced from the original plants or, if able to be matched, replaced in-kind, to regain the earlier scale relationships. Other existing plantings, where scale relationships are not an issue, would be

retained. Archaeological investigations may be required to verify original paths and other built element locations and materials. In the restored/reconstructed Formal Gardens all elements within and surrounding the brick walls would reflect the late Vanderbilt period based on accurate documentation.

Restoration of the South Lawn, Great Circle, Mansion & Pavilion Vista

The Hudson River vista along the ridge line west of the Mansion and Pavilion would be restored to its late Vanderbilt appearance (Figure 7). Lost trees along this ridge would be replaced. Changes to the outline of the lower meadows and woodlands, that shape the vista, would be undertaken in a Restoration treatment.

The missing foundation plantings on the west side of Mansion would be replaced under a Restoration treatment, based on documentation from the Cridland plan and historic photographs (Figure 8). This treatment deals with an entirely missing feature, and while it is important, we are judging it not to be so intensive an intervention as to warrant calling it a Reconstruction.

At the north side of the Pavilion, the former drying yard would be reconstructed to match documentation. The NPS era pedestrian paths, signage and lighting would also be removed and the Vanderbilt-era path system, from the Pavilion to the Mansion to the Formal Garden, would be restored to its earlier configuration and materials (Figure 9). The remnant path segment dropping downhill, with its related shrub planting, would also be restored. Archaeological investigation may be required to verify original locations and materials for these paths.

The South Lawn, the specimen trees, and the lawn and plantings between the Mansion and the Pavilion would be retained and augmented to replace any missing elements. Known historic trees missing along the ridge would also be replaced based on historic documentation. A limited number of additional volunteer plants, not dating to the Vanderbilt era or replacements for historic plants since the Vanderbilt era, would be removed.

The Great Circle drive alignments, which match the Vanderbilt era, would be retained. Curbs would be retained or replaced in-kind as required. The drive materials would be altered to those of the Vanderbilt era, which are assumed to be stone fines over a gravel base. Further documentation, from plans, photographs and possibly oral history accounts, would be required to verify all drive materials, as it is possible that variations in drive materials existed in the Vanderbilt period. Drive drainage would be repaired to become fully functional, with intervention matching the degree of deterioration.

Specimen tree plantings within the circle and around the perimeter in the lawn would be retained and any documented missing elements would be replaced in their original locations. White pine screen plantings along the west edge would be protected, cared for appropriately and when a sufficient number have been lost, they would be replaced in-kind as a group so that they would mature together as they did in the Vanderbilt era.

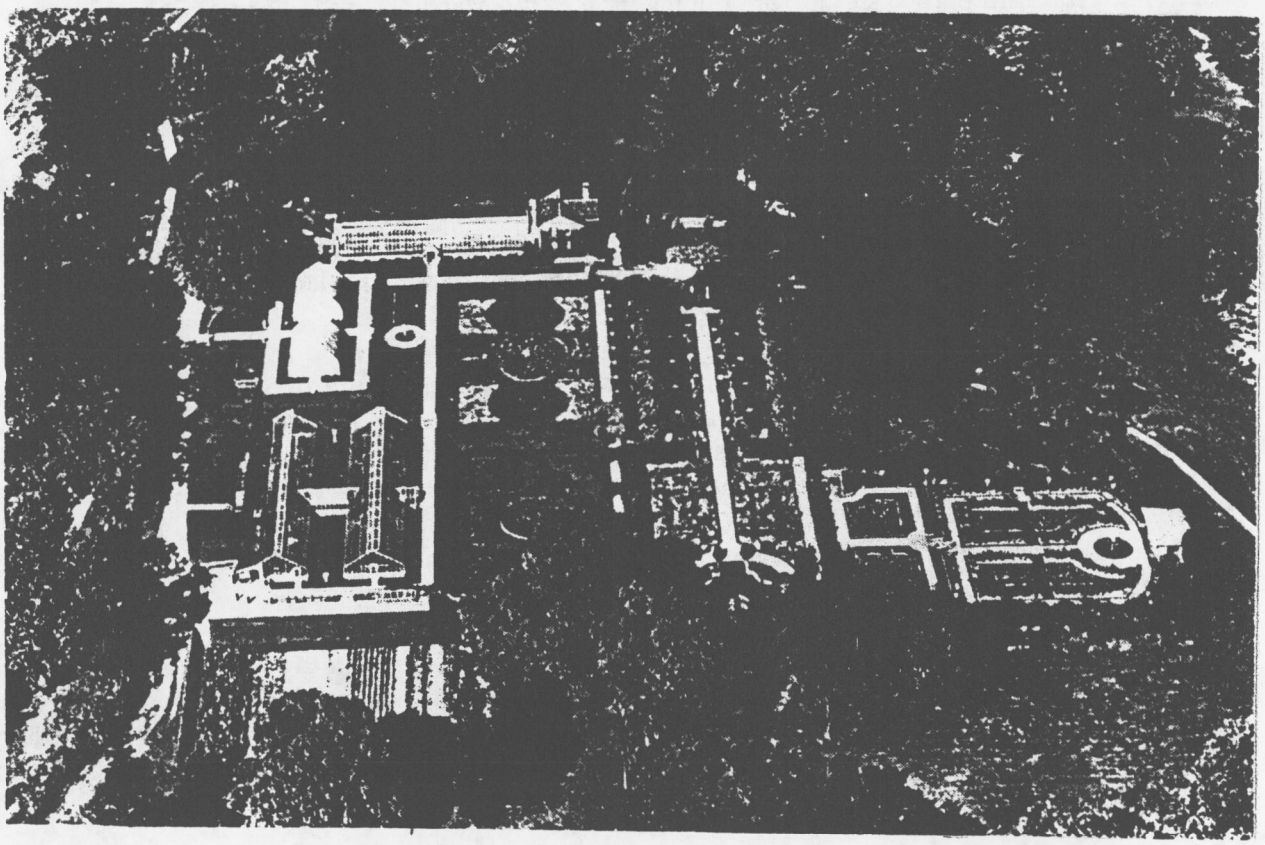


Figure 3. Aerial view of Vanderbilt Mansion National Historic Site Formal Gardens and surrounding landscape. Photograph by Reichert, September 5, 1976, VMNHS, no. 71592.

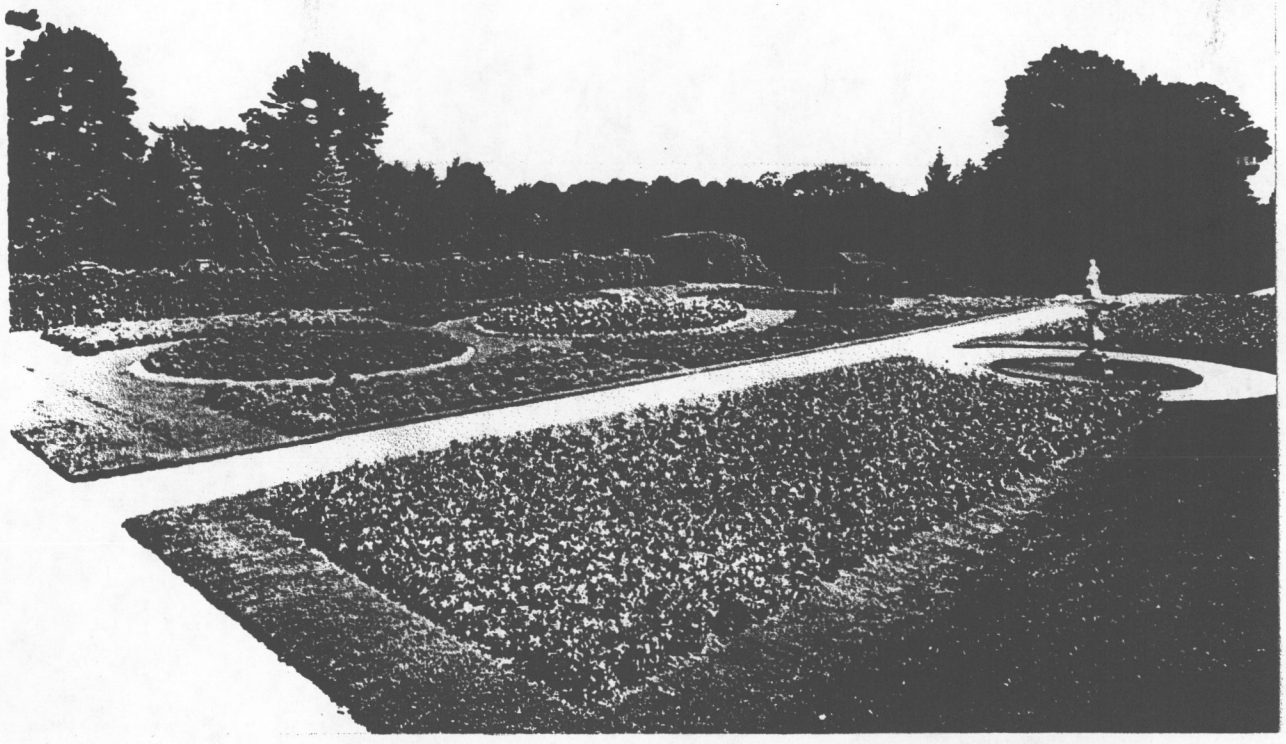


Figure 4. Upper terrace of Formal Gardens showing annual beds, plantings surrounding fountain and dense vine covered trellis. Photographer unknown, ca. 1922. F.W. Garden Association collection from Molly Tomkins estate, VMNHS.



Figure 5. Redbud and Dogwood grove along the edge of the slope to the south of the Formal Gardens. December 1993. Photograph by LANDSCAPES.



Figure 6. Redbud and Dogwood grove along the edge of the slope to the south of the Formal Gardens. December 1993. Photograph by LANDSCAPES.

Restoration of the White Pine Buffer, Tennis Court & Subway

This buffer is beginning to fail in its original purpose of screening the estate from the traffic and noise along Route 9. The three rows of White pine trees will need to be replaced sequentially, one row at a time. This process would follow the original planting pattern, beginning with the oldest row closest to Route 9. An attempt should be made to determine the approximate age of the trees in each of the three rows, using a coring technique and calculating the rings and inches in the core to the current radius of the tree. With age information the rows could be replaced sequentially, on the age cycle that was used in their original planting sequence. Photographic views indicate that this sequence could be on a $\pm$ 40 year cycle (Figure 10).

The tennis court is not intended for reconstruction under a Restoration treatment. Documentation for the tennis court comes only from two photographs and the details of the court are not entirely known. The surrounding fence is clearly visible and the flat topography created for the court remains intact. The fencing surrounding the courts is intended for reconstruction so that the location and shape of the court is clearly visible.

The Subway is an important visual feature, although this route to the former farm lands on the opposite side of Route 9 is no longer used since these lands are in private ownership. However, the Subway entry and its flanking walls remain in a substantially intact form. The former route to the Subway is intended to be reconstructed in stabilized gravel. This feature, which has the most clearly demonstrated link to the private ownership eras when the farm provided for the tables of the owners and staff, can be interpreted to the visiting public (Figure 11).

Restoration of the North Lawn, Overlook Drive & Path

The main visitor parking lot on the North Lawn would be reviewed for appropriate location and detailing, as would the Overlook parking and related benches and furnishings. These NPS era elements could be potentially removed, relocated or made to blend into the landscape in a less obtrusive manner under a Restoration approach. The historic path that provided for pedestrian access along the ridge would be reconstructed on its historic alignment. An archaeological investigation may aid in pinpointing the path location. This path will extend from the Pavilion path in a continuous system, connecting to the path that provides access to Bard Lane (Figures 12 & 13). A connection from the parking lot should be constructed to afford safe visitor access to this path.

The lawn of the North Lawn may be managed differently, as shown in 1940s views, to a meadow with less frequent mowing. A review of documentation would be required to make a determination. Specimen trees would be retained as existing and replaced in-kind, while documented missing trees would be added. For example, a regular allee of Sugar Maple trees appears along both sides of the Overlook Drive in some historic views. This allee now has gaps and these should be filled individually or all the trees should be replanted at the same time to allow them to grow together. The more radical Restoration of the feature as whole or the individual approach would need to be determined.

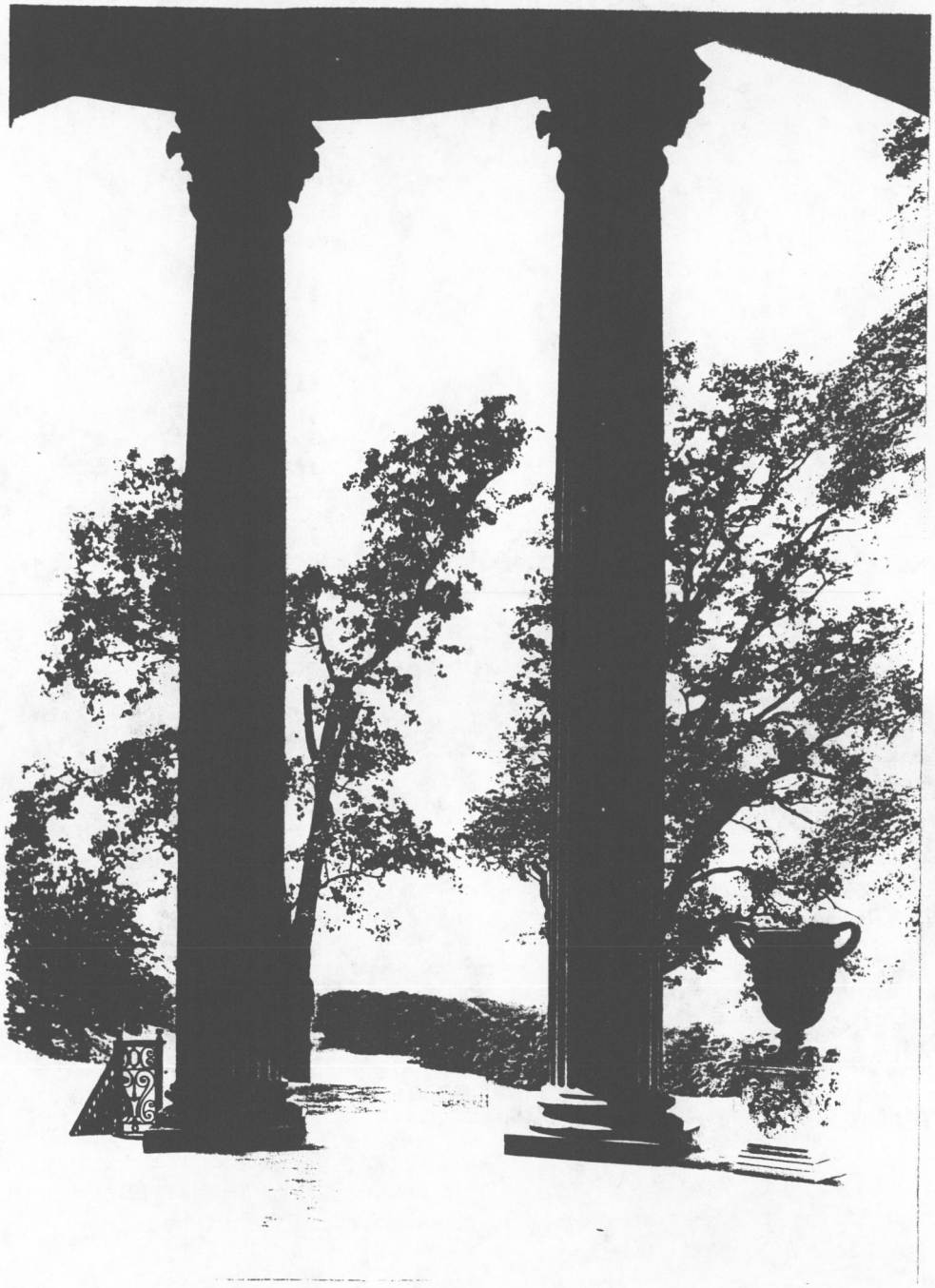


Figure 7. View to the west over the Hudson River from the west portico of the Vanderbilt Mansion. Undated. Hyde Park Historical Society collection.

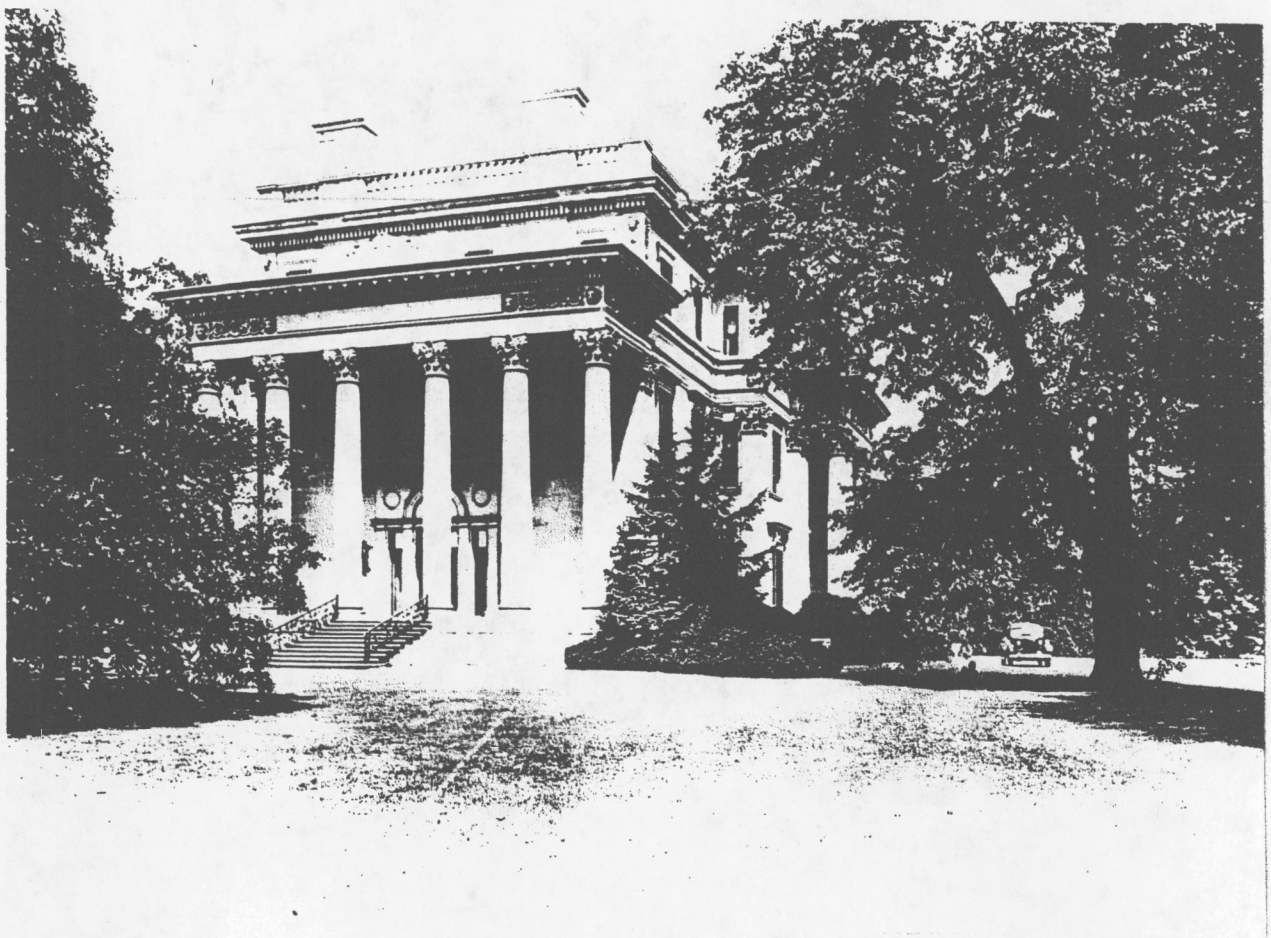


Figure 8. Vanderbilt Mansion south facade showing dense foundation plantings, ca. 1940s. Hyde Park Historical Society collection.

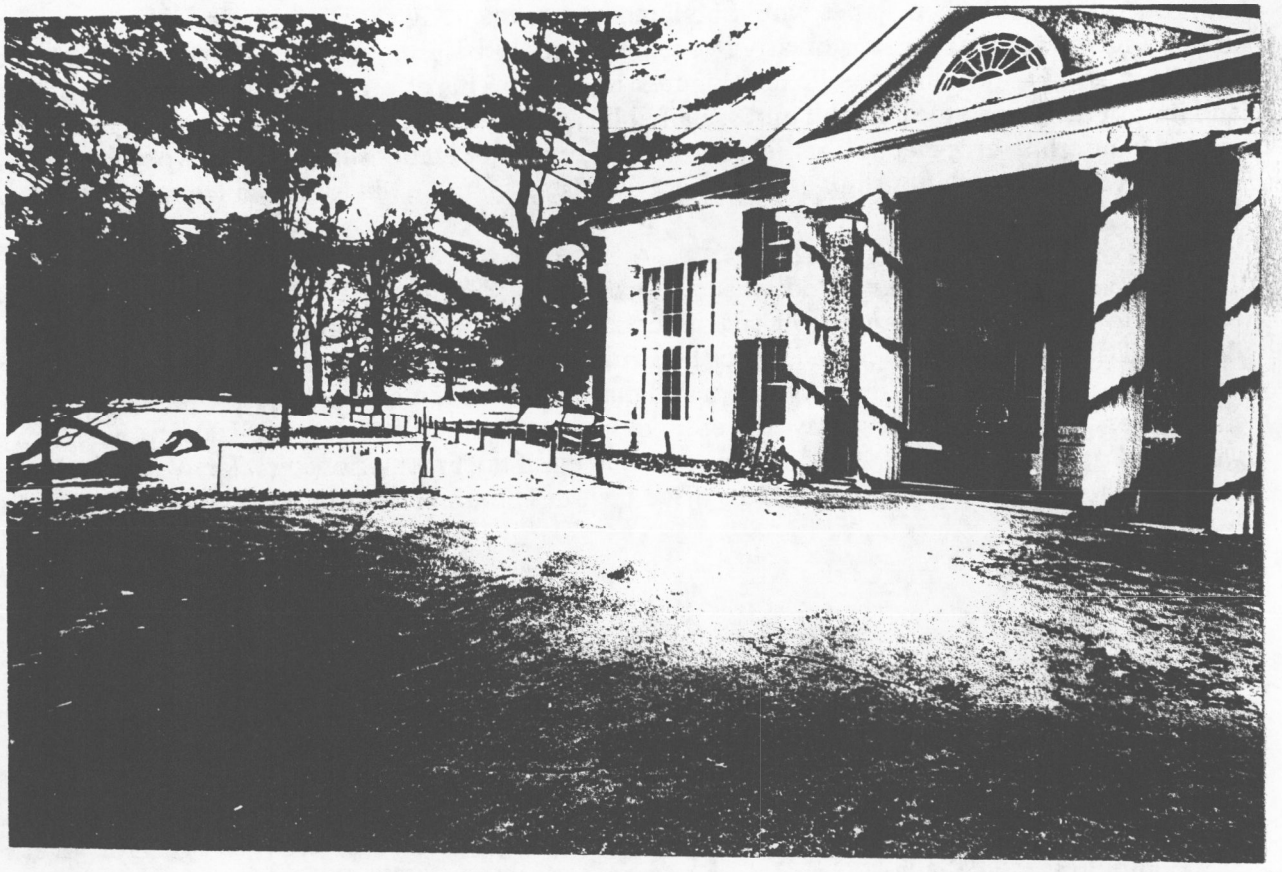


Figure 9. Parking area and pedestrian path to the Mansion to the east of the Pavilion. December 1993. Photograph by LANDSCAPES.

Restoration of the North Gate, Bard Lane, Lower Meadows & Woodlands
The North Gate would be stabilized, repaired and repointed at the level required. The iron gates would be restored and made functional again, as they are currently frozen in place. One oral historic account indicates that "thorny" bushes were planted in front of the gate along the curving stone walls. This account recalled the bushes as privet, although privet does not have thorns.[3] However, the River gate was planted to Japanese barberry, which may also have been used at the North Gate.

The failed drainage system in the lower meadow would be repaired at the level required. Using documentary evidence, the changes in grade around the failed drainage would be restored to their Vanderbilt era configuration.

Bard Lane, documented through early plans and one recent oral history report, would be restored to its edge treatment, paving materials and alignment in the Vanderbilt era in a Restoration approach (Figure 14).

Changes to the woodland vegetation to reshape the edges of woodland and meadow would be undertaken to reinstate the earlier form. Documentation from the late Vanderbilt era would guide this intensive intervention. Gently sloping areas and undulating meadows would continue to be machine mown and steep slopes would be hand cut with woody vegetation regularly suppressed under a Restoration approach. Invasive vegetation would be removed from the woodland edges and suppressed within the woodlands (Figures 15 & 16). This effort would also work to stabilize and improve the ecological health and sustainability of the woodlands, to encourage regeneration of the Vanderbilt era species, while restoring the spatial relationships of the woodlands. The alteration of spatial relationships would affect the vistas from the Mansion and from the Overlook Drive.

The remnants of the former woodland trail, from the ridge to the Woodland Drive, would be restored to their historic alignment based on surface investigation and archaeological findings. The Bard trail along the ridge descending to the Crum Elbow Creek drive would also be retained as existing, and possibly altered in alignment and materials if documentation can be located to verify the earlier condition. It is somewhat eroded now and may require stabilization. The lower woodland drive would be retained and restored, again if documentation can clarify its Vanderbilt era materials, width and alignment. This drive includes a number of underdrainage features that require repair.

Restoration of Bard Rock, Meadow & Woodlands
The railroad bridge would remain. The visitor parking lot would be reconsidered against late Vanderbilt Bard Rock documentation (Figure 17). The appearance of the Bard Rock landscape during this period is unclear from current research. The best mapping of the area dates from the Sexton ownership, but this information would be inaccurate for the late Vanderbilt years. Historic drives may potentially be used for parallel parking, to replace the existing NPS-era lot. The narrow dirt path system through the woodlands could be retained and stabilized or, if a greater level of documentation is available, it could be restored to the historic period appearance. Woodland vegetation would be retained, or potentially restored to the historic appearance if that can be determined. The existing conditions at the former Boat House site and along Bard Rock would remain rather than be reconstructed.

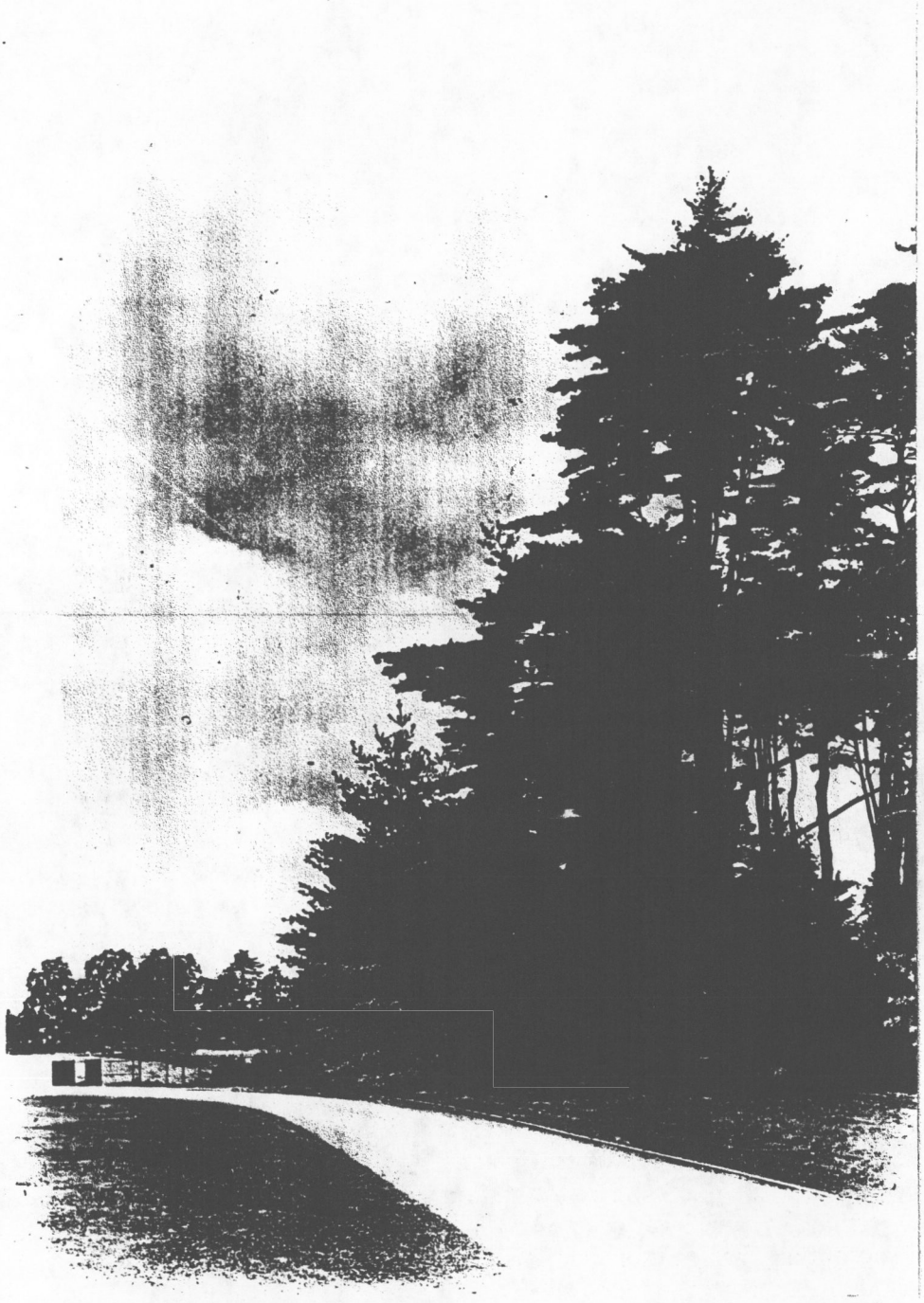


Figure 10. White pine buffer opposite the Great Circle. The fence outlining the Vanderbilt tennis court is just visible. Undated. Hyde Park Historical Society collection.

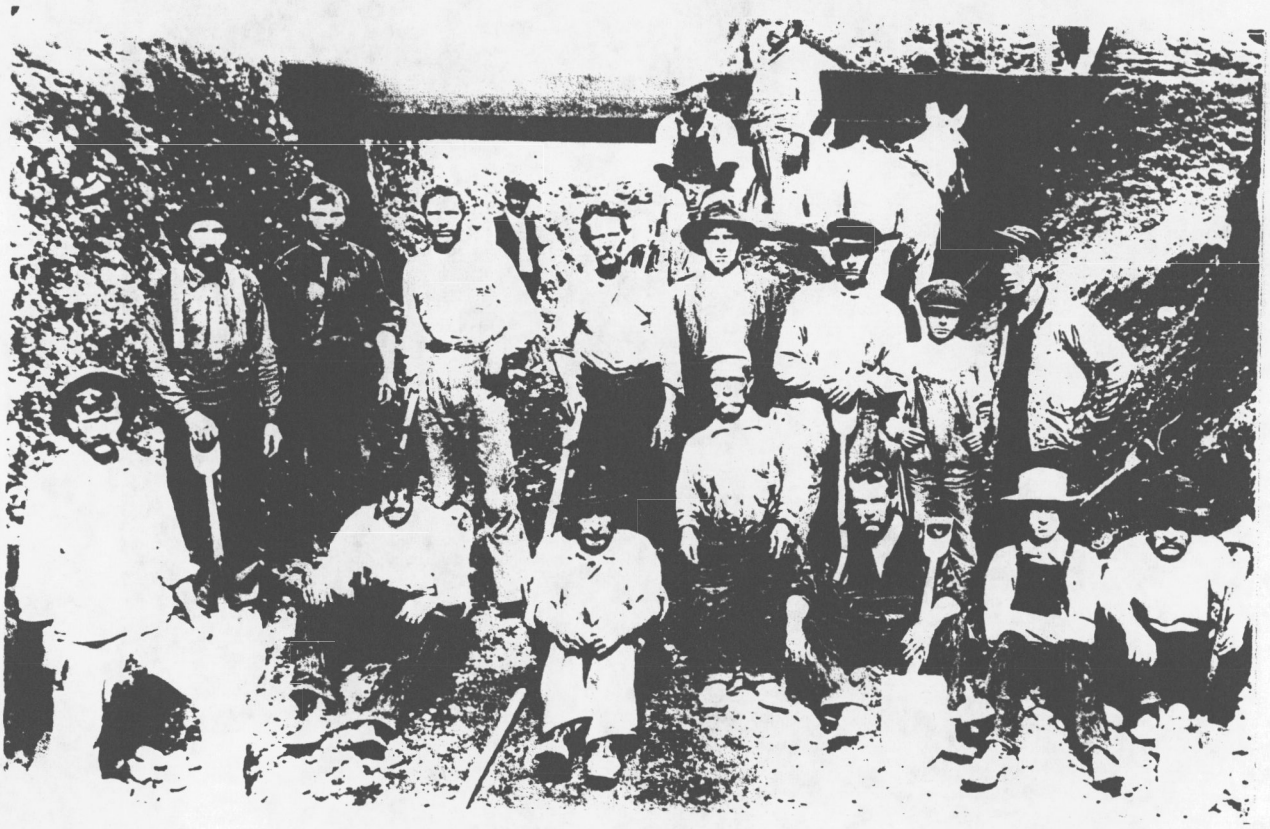


Figure 11. Postcard view of construction of Vanderbilt Subway tunnel used to access farm lands to east of Albany Post Road, undated. Hyde Park Historical Society.

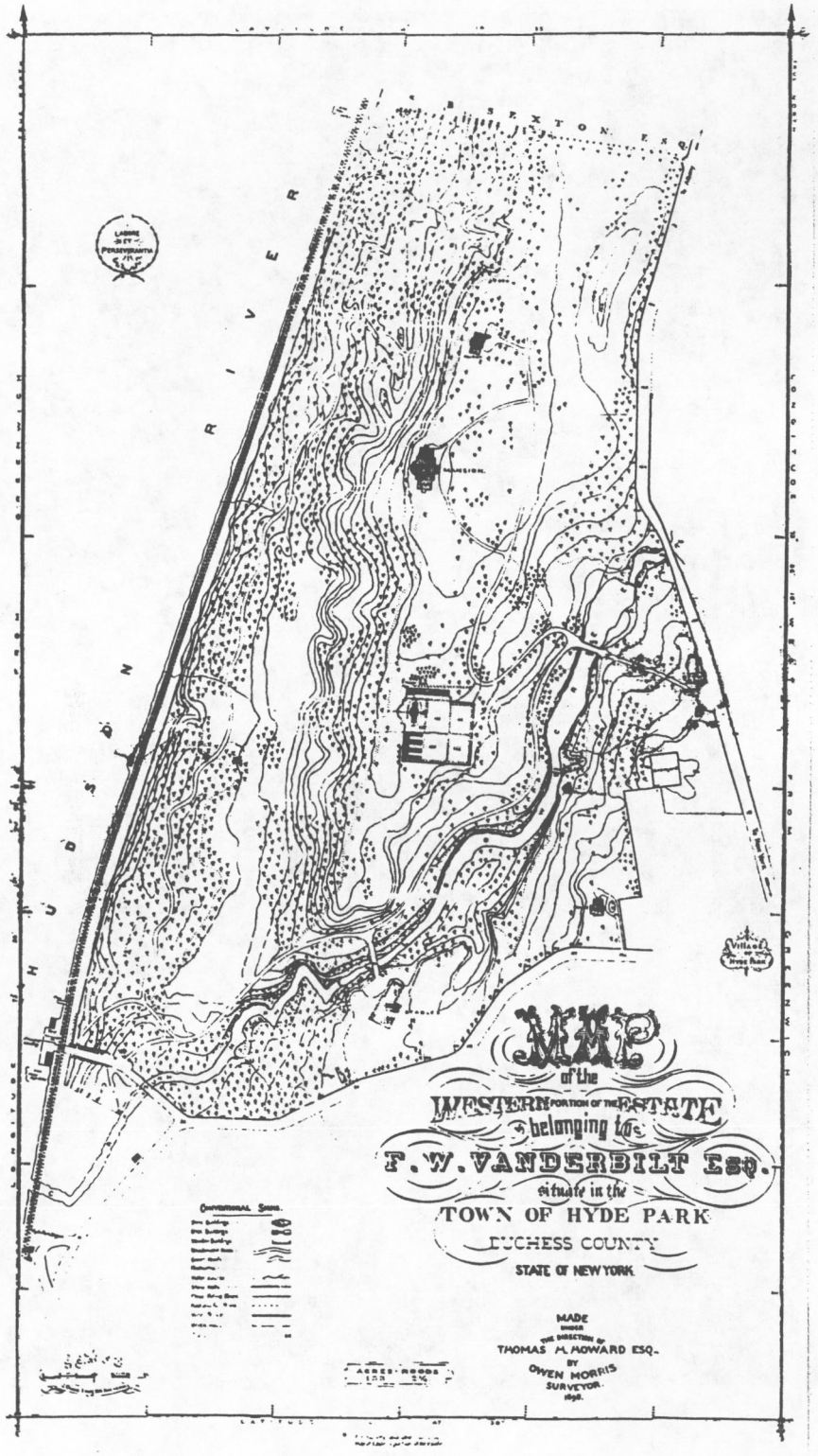


Figure 12. "Map of Western Portion of the Estate belonging to F.W. Vanderbilt, Esq." Made under the direction of Thomas H. Howard Esq., by Owen Morris surveyor. VHS-VN, 1898. This plans clearly shows the pedestrian ways, ridge line path and the path through the woodland. VMNHS.



Figure 13. View of woodland with six bluestone step treads located along the historic pedestrian path leading from the ridge line path to the lower road and Bard Rock, December, 1993. LANDSCAPES.

Restoration of River Gate, Crum Elbow Creek & Woodlands

The River Gate would be dismantled and reconstructed to match the historic condition. The stone walls are unstable and require a complete rebuilding. The iron gates are rusting and are frozen in place, requiring restoration to full function. The existing Crum Elbow Creek drive would be restored to the curb or curb/gutter and coursed gravel drives of the Vanderbilt era. The pedestrian path between the White Bridge, Powerhouse and Coach House would be reconstructed along its historic alignment and stabilized if required. The Cobblestone Bridge over the creek would be inspected and treated as required to address the level of deterioration. The watercourse and creek banks would be stabilized as required and potentially planted differently in some areas to reflect historic views. For example, one Vanderbilt era view shows aquatic emergent plants and creek edge plants along the margins that are no longer present. The mixed woodland vegetation would be retained as existing and possibly augmented. Additional documentation of Vanderbilt era conditions should be consulted to address these potential changes.

Restoration of the Coach House Meadows

The Coach House access drive would be restored to the Vanderbilt era condition. Changes to the configuration of the NPS parking area in front of the Coach House would reflect the Vanderbilt era organization. Parking accommodations would need to be considered, perhaps on stabilized turf. The meadows, woodlands and individual trees along the perimeter wall would be retained and replaced in-kind with additional plantings from the historic period added. The spatial organization of these woodlands has also changed to a degree and these changes would be reversed, as in the Lower Meadows and Woodlands. The lost spruce trees in front of the Coach House would be replanted (Figure 18). The composition of the woodlands would also be reviewed to understand changes, remove invasive plants, control non-native disease and pests, stabilizing the woodlands. The Coachman's House on the west side of drive would not be reconstructed under a Restoration approach.

Restoration of the Perimeter Walls

The dressed stone perimeter walls to the south along Market Street and to the east along Route 9 would be repaired and stabilized as required and fully rebuilt, using the existing stone and additional stone to match as required, in areas where deterioration is extreme (Figures 19, 20 & 21). In some areas additional foundation work may be required. A portion of the wall along Route 9 was topped with a short iron picket fence that was removed for the war effort in the 1940s. The fence was mounted into the wall and areas where it stood are indicated by the remaining metal fragments in the capstone. A field investigation can determine the exact locations and extent of the former picket fence. Exact documentation of this fence has not been discovered, but it is said to have resembled the iron picket fence atop the Shears house wall along Market Street, although this fence was placed at an earlier date. If further documentation can be discovered this segment of fence could be replaced. During the early 1980s a very tall portion of the perimeter wall along Route 9 was buckling from retaining the public road. This segment of wall was about twenty feet in height and period photographs show a bowing of the wall. After costing a reconstruction of the wall and considering the traffic delays along Route 9, NPS staff created an earthen berm on the Vanderbilt property side of the wall to bury it and thereby stabilize it. The excavation and reconstruction of this wall should be considered under a Restoration treatment. The dry laid stone wall to the north wall along the property boundary probably is in a tumbled-down state and would need to be relaid using areas that are intact as models for the balance.

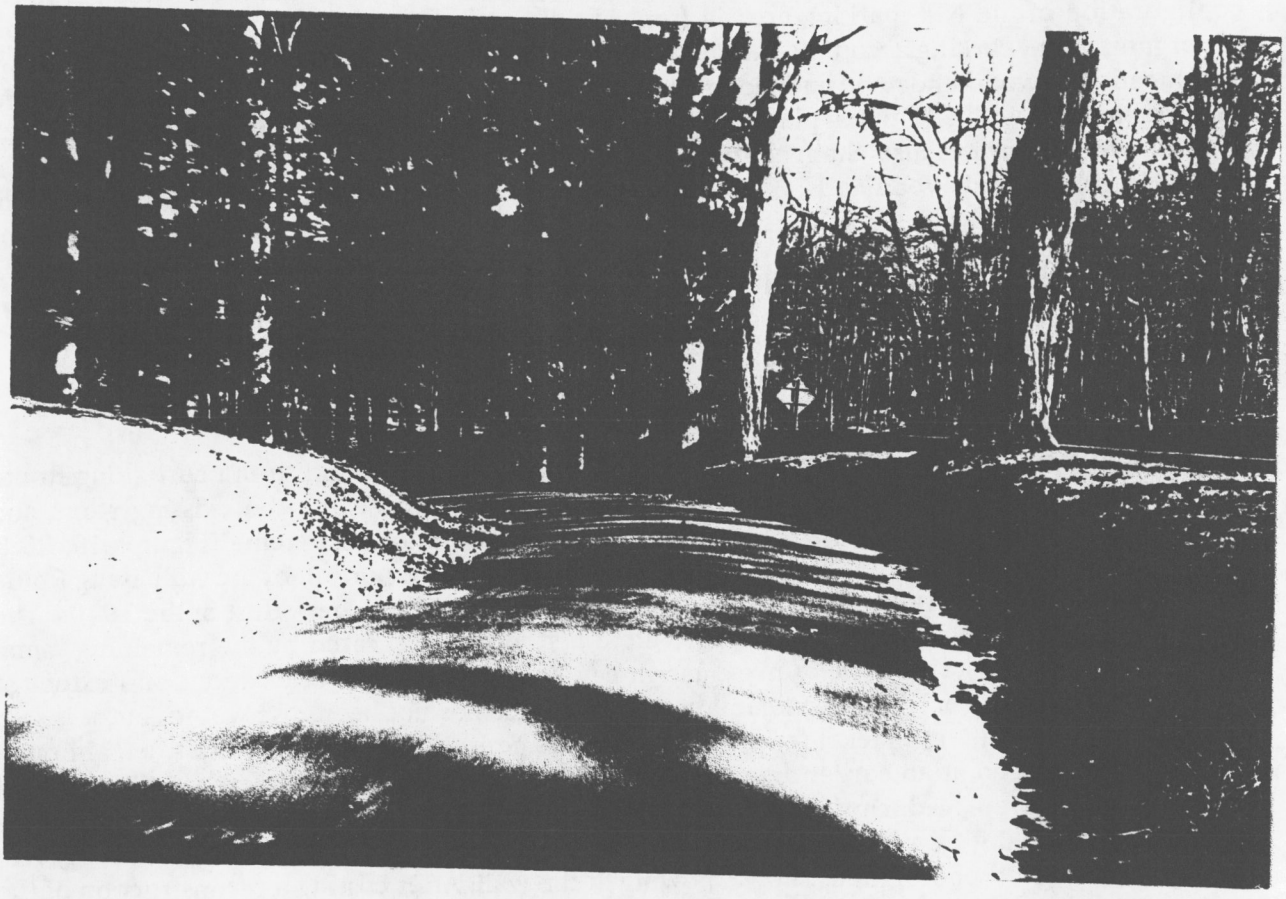


Figure 14. Upper portion of Bard Lane showing the steep grades along both sides of the drive. December 1993. Photograph by LANDSCAPES.



Figure 15. Invasive *Ailanthus altissima* (Tree of Heaven) colonizing the steep area below the ridge line in a former meadow west of the Mansion, September, 1991. LANDSCAPES.

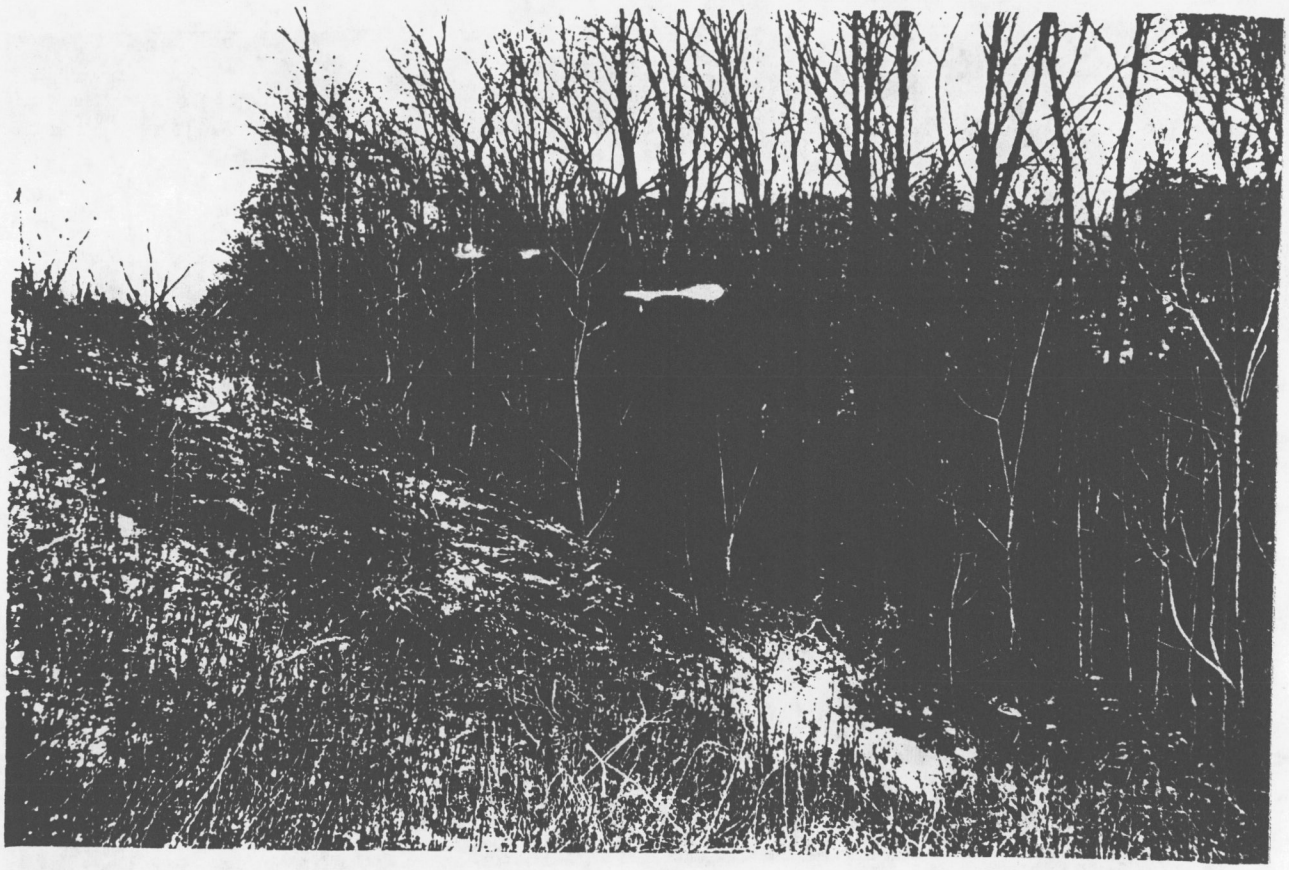


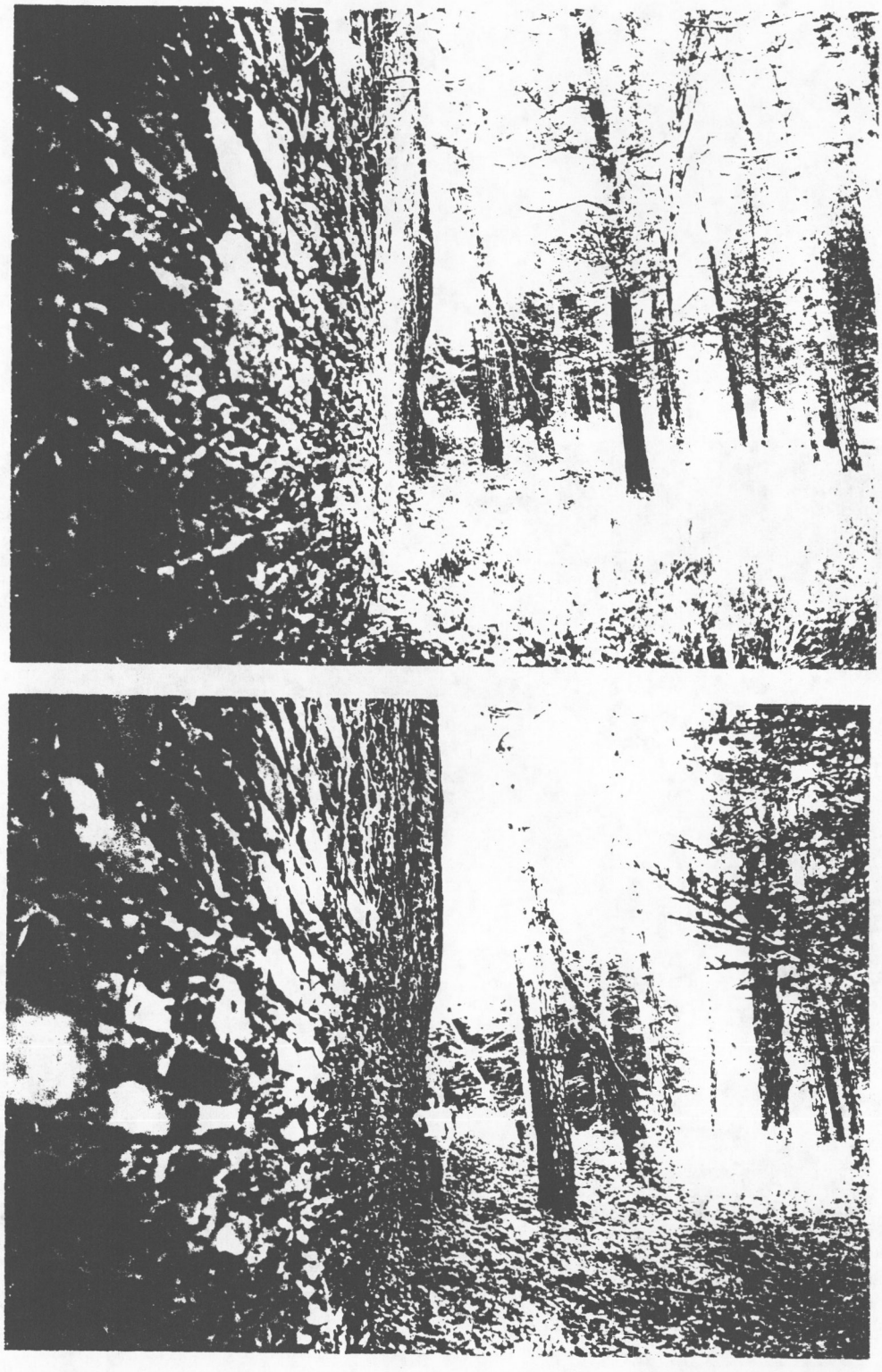
Figure 16. View of Lower Meadows showing encroachment of woodlands into former open area on sloping ground, December, 1993. LANDSCAPES.



Figure 17. Visitor parking lot at Bard Rock in area of former open meadow, December, 1993. LANDSCAPES.



Figure 18. Early Vanderbilt Coach House with dense evergreen plantings, undated photograph. VMNHS, no. V-136.



Figures 19-20. View of Vanderbilt Mansion stone wall along Route 9. Notice buckling of retaining wall that was later filled in, circa late 1970s. VMNHS maintenance files.

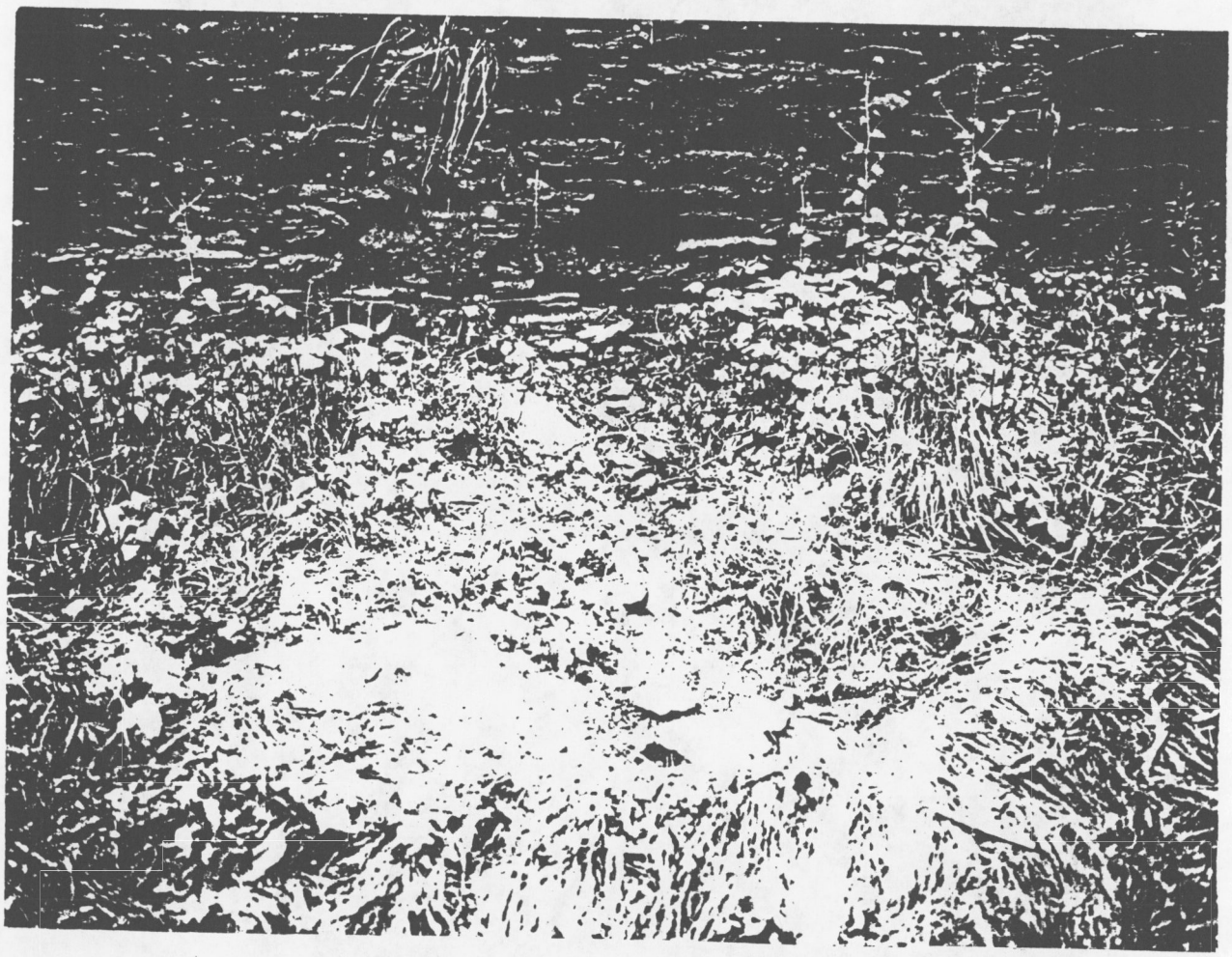
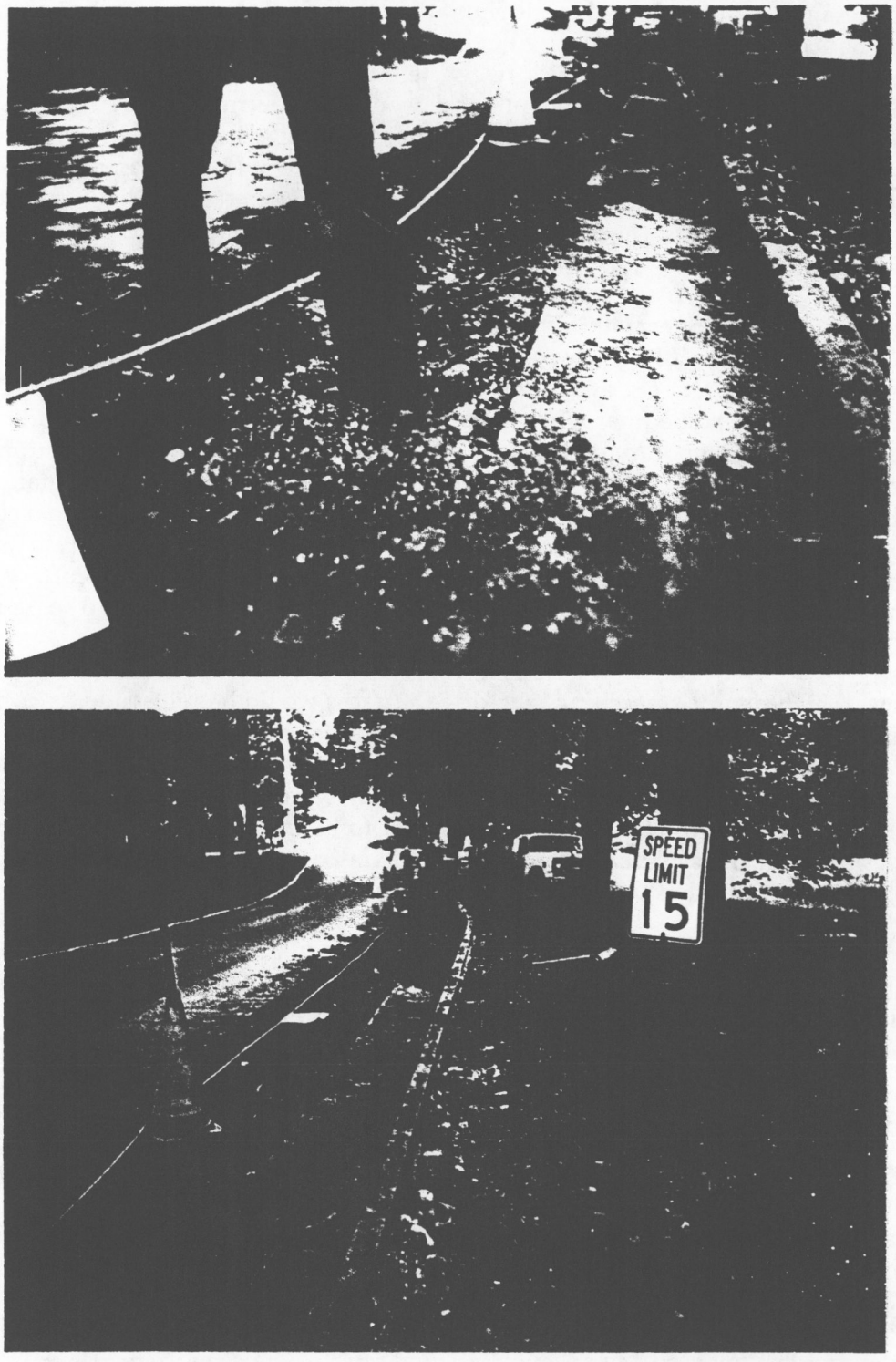


Figure 21. Closeup of erosion problems of Vanderbilt Mansion stone wall along Route 9, ca. late 1970s. VMNHS maintenance files.



Figures 22 & 23. Detail of entrance drive to Vanderbilt Mansion National Historic Site being milled down and repaved circa 1970s. Clearly shows integral curb and gutter system. VMNHS maintenance files.

Restoration of the Property Drives

While drive segments may fit within individual treatment units, the treatment of the drives may be carried out comprehensively rather than in pieces. A restoration approach would direct toward the retention and repair of the historic drive system to its original form using traditional materials and techniques. Changes to drive alignments would be returned to their original forms. For example, the Pavilion drive entry and turnaround space would be returned to the curving shapes of the late Vanderbilt period. The drive drainage systems would be cleaned and repaired, to be fully functional, retaining the maximum amount of historic materials (Figures 22 & 23). Unlike some historic drain systems, the subsurface drainage system at the Vanderbilt Estate was sized to accommodate heavy flows.

The historic system of drives within the property was constructed using a highly durable Telford Road technique of coursed large stone, gravel and stone fines. Oral histories refers to both stone dust, crushed stone or cinders as the top coarse. Physical evidence appears to indicate that the drives and paths were stone fines. This system is well-drained, highly durable and more carefully constructed than contemporary drive construction techniques. Drive reconstruction would entail the removal of the topping layers of asphalt pavements placed over the historic materials. Samples of the historic drives layers could then be taken for analysis and matching. Vertical concrete curbs, colored to appear like bluestone, were used on all level or relatively level drives' margins, while an integrated curb and gutter detail was used on steeper grades. Much of this curb system remains, with some portions in good repair and other areas deteriorated. Deteriorated segments should be replaced in-kind to match.

To achieve a high degree of accuracy the drive surfaces would be reinstated as compacted stone fines. This surface was topdressed annually or more frequently as needed during the Vanderbilt years, but it may not be achievable under the current public traffic loads and related frequent maintenance demands. An appropriate approach may be to mill down the current asphalt layer to a depth that will allow 2 1/2 inches of asphalt to be installed over the existing gravel base. Then the surface of the asphalt can be chip sealed with a small stone surface treatment to create an appearance that parallels the historic one while providing a drive that will hold up to the traffic loads.

REHABILITATION AS A PRIMARY TREATMENT

The application of **Rehabilitation** as an historic landscape treatment seeks to continue the original use or make a compatible, new use possible while preserving intact historic, character-defining features. As in any treatment, changes that create a false sense of historical development are not appropriate. Repair and replacement of deteriorated features may be required under a rehabilitation treatment. With rehabilitation, as well as preservation, changes to the property over time that are significant in their own right are retained. As in both Preservation and Restoration, interventions need to be undertaken at the appropriate level matching the level of deterioration. New materials are to match old in all aspects of design, color, composition and of physical and visual compatibility. These repairs or replacements should also be identifiable upon close inspection and documented as to scope and conditions of the required work. In a Rehabilitation the historic character of the property is safeguarded as accommodations are made to provide for compatible use.

Rehabilitation is generally driven by a contemporary need, change in use or a new program for the property. It often applies to public park landscapes where new uses need to be inserted in a sensitive and compatible manner. It does not readily apply to VMNHS where the current use is essentially to bring the public to the property and interpret it as a private estate. The Designation Order for the Vanderbilt Mansion National Historic Site indicates that the estate was a property regarded as "representative and illustrative of their period and hence of national significance in the economic, sociological, and cultural history of the United States," and that it was given to the United States by Margaret Van Alen "for preservation as a memorial to her uncle, Frederick W. Vanderbilt". The original site mandate address three purposes: 1. explaining the significance of these wealthy Americans and the era they represent, 2. informing the public of the lifestyle of the wealthy Vanderbilt's at this estate, and 3. illustrating a phase of human interaction with the environment. The Management plan for VMNHS indicates that, within staffing and budgetary restrictions, the management intent is to preserve and in that context not to "modernize" the historic resource. The overriding NPS mandate is to ". . . preserve, protect and provide for the enjoyment by such a manner as will leave them unimpaired for future generations". The park's mandates have directed management towards preserving the estate as an example of the great estates of wealthy America and interpreting it to the public.

Because of the nature of these mandates for the property, Rehabilitation to address some alteration or new use would not be recommended as a primary treatment for the VMNHS landscape. Because this treatment is not considered as a primary one, a detailed review of the Rehabilitation issues of universal access, vehicular access and parking, and interpretation are considered property-wide rather than being addressed for each area.

RECONSTRUCTION AS A PRIMARY TREATMENT

Reconstruction is defined as an intervention that depicts, using new construction, the form, features and detailing of the non-surviving landscape with the intent of replicating its appearance at a specific period of time, in an accurate historic location. Given the amount of original historic fabric extant at the site, Reconstruction would not be a primary treatment for consideration on the broader VMNHS property and landscape. However, under the Restoration alternative, Reconstruction as a treatment can be applied to individual features that are lost or missing in the VMNHS landscape when documentation is sufficient to limit conjecture. A Reconstruction treatment could apply to:

- Structures, including the lost greenhouses, tennis court, Boathouse, Coachman's House, other built elements such as lost garden walls, vine support hoops and sculptural objects.
- Vegetative features, such as the Mansion foundation plantings, Main Gate plantings, and Formal Garden plantings.
- Pedestrian paths, notably the paths along the ridge and from ridge to lower woodlands, to include the Hosack era Euterpe Knoll path.

The Reconstruction of any feature may only proceed if there is adequate documentation to support such an effort. The appropriateness of partial reconstructions, such as the ghost-framing of greenhouses for interpretive and programmatic purposes, would also need to be determined through a more complete exploration of the Secretary of the Interior's Standards.

CONTEMPORARY USE

Given the current uses of the site, the following issues of universal access, vehicular access and parking, and interpretation should be addressed in any preservation treatment of the VMNHS landscape.

Universal Access

Universal access addresses the need to provide for the enjoyment of public properties by persons of all abilities, from toddlers to grandparents and wheelchair bound persons to fully able ones. Access for the disabled is covered in detail in the Americans with Disabilities Act (ADA). Guidelines, developed by the National Park Service and the National Forest Service, address the implications of ADA for public landscapes and could be used to develop access recommendations for VMNHS. For example, drop curbs for ease of wheelchair movement could be built into any changes in pedestrian circulation. Access goals may also lead to the modification of historic materials and sizes. All public buildings would need to be accessible, and this has been addressed at both the Mansion and the Pavilion with a limited intervention to the building facades or the landscape. All paths are intended to be 5% grade and this can be achieved within the core area of the property. The terraced topography of the Formal Gardens and the steep grades on the Bard and Hosack paths cannot be readily adjusted to meet this standard without substantial changes to historic character. Within the gardens the upper paths can be accessed by those in wheelchairs, but steep slopes and steps prevent additional access. The need for broader site access requires further consideration and discussion.

Vehicular Access & Parking

Private vehicle and bus access to VMNHS is generally through the Main Entry along the drive to the main parking lot. The current drive surfaces are black asphalt. A Restoration approach would return the drive surfaces to stone fines which is not a particularly stable material for modern vehicles, especially on sloping portions of the drive. Cinders are also likely to degrade the quality of the drainage flows on the site and will wash into Crum Elbow Creek and the underground drainage systems. Functional, safety and maintenance concerns require the choice of a low maintenance, durable drive surface that approaches the historic visual qualities and materials to the greatest possible extent, requiring a substitution for the historic cinder top dressing. Using cinders as a top coat on the asphalt or using a special asphalt mix, a specification for the asphalt drive surfaces could be developed to mimic the appearance of the dark cinders shown in historic views.

The parking accommodations for site visitors is a contemporary use that also needs to be addressed within the VMNHS landscape. The main visitor parking lot at the south end of the North lawn near the Pavilion was developed in the early NPS years under the site's first master plan. It is shown on this plan as a six unit lot, larger than the existing four-unit lot. In general, the placement of the lot is not effective, in that it has overlaid a feature of primary importance to the historic landscape. It could have been much more obtrusively located. However, the problem with this large existing parking lot is that it is highly visible from the surrounding area and it replaces the green end of a meadow, with a large asphalt pavement area. To make this lot less visually imposing, perhaps its grading could be studied and the lot depressed into the grade. Historic documentation of plantings at this end of the meadow may indicate that additional plants could be placed around this lot. Possibly the area for parking in this location should be reduced and an additional lot

placed elsewhere. Potential sites are the Coach House meadows and father north in the existing area. The upcoming paving project may afford an opportunity to rethink the site parking.

Three smaller lots, including staff parking at the Coach House and visitor parking at the Overlook and Bard Rock, are all obtrusive in their settings. Alternatives that are less visually imposing have been discussed in the above text and should be considered as preservation treatment planning proceeds.

Interpretation

Historic landscape interpretation is a programmatic issue and contemporary need discussed in the site's master plan. Its implementation could reach various resolutions. The development of waysides in the landscape is one approach to visitor information. While waysides are effective tools for communicating information to visitors, they clutter the historic landscape. A limited number of waysides, carefully placed, could be permanently installed.

To give the visitor a larger body of historic landscape and ownership chronology information, guided tours and self-guided tours may be more effective. The development of a self-guided tour brochure can be a particularly effective approach to landscape interpretation in either a Restoration or Preservation treatment. A self-guided tour interprets the landscape in a non-intrusive manner, using a descriptive, illustrated brochure that each visitor could obtain. They physical features of the landscape are not changed. The benefit of this approach is that it can be readily changed, shortened, lengthened, altered, to adjust to changes in the landscape and in the interests of the visitors.

PRESERVATION TREATMENT OF SURROUNDINGS & SETTING

A need to consider the setting and surrounds of VMNHS, beyond the property boundaries, was raised in the initial project discussion and also referenced in the Final Master Plan. The broad Hudson River vista, providing extensive views along both the east and west shores, brings the site visitor into contact with many additional properties. There is a great deal of preservation activity within the Hudson River Valley. The ROVA staff are involved in several of the local and regional lands use groups supporting preservation, including the Hudson Valley Greenway, Hyde Park Trail, and the Hyde Park Visual Environment Committee. One result of these group activities was the designation of a number of Hudson River properties as a landmark district. Excessive development and loss of forest and farm lands within the VMNHS viewshed would have a negative impact on the experience of the river valley from the site.

To initiate a preservation treatment within the VMNHS vista, the first step is to identify the important aspect of that vista. Undeveloped lands are a component of that view and tree canopy cover on developed properties are also of import. Retention of the qualities of the broad vista is another objective. In order to aid in the preservation of the setting around VMNHS, regional and site staff should take a more active role with groups in Hyde Park and the region in advocating conservation of the land and limitation of large-scale, intrusive development. The ways in which NPS can collaborate with other groups and agencies should be developed in detail.

RECOMMENDED LANDSCAPE PRESERVATION TREATMENT

Preservation, as detailed in this report, essentially accepts the existing conditions at VMNHS and directs efforts towards stabilization and protection of the landscape. This approach is inconsistent with the Final Master Plan and is insufficient to fully portray the landscape as it appeared in the late Vanderbilt period. Preservation is therefore not recommended as a primary treatment.

Restoration is recommended as a primary treatment to address the landscape at VMNHS. This treatment would preserve and retain all existing character-defining features, restore deteriorated elements and replace some missing elements. The landscape as restored will directly address the site designation and objectives by effectively portraying the landscape of the late Vanderbilt era.

The aspects of handicapped access, vehicular access and parking should also be addressed in the manner that brings them as close to Restoration as possible, while accommodating these contemporary needs.

Guided and self-guided tours are recommended for landscape interpretation. This approach will not add a series of waysides to the landscape, and will reinforce the quality of the place as a private estate, rather than pointing out that it is a NPS historic site. A tour brochure should be developed for visitors who wish to go at their own pace.

CHAPTER I: ENDNOTES

1. These paragraphs are excerpted from Pages 342 to 346, Cultural Landscape Report, Vanderbilt Mansion National Historic Site, Volume 1, Site History, Existing Conditions, and Analysis, O'Donnell, Patricia et al. 1992-1993.

2. During the writing of this report Patricia M. O'Donnell had a telephone discussion with Robert Page, Manager, Cultural Landscape Program, Parks Historic Architecture. One of the points made was that the ghost frame approach was primarily an interpretive tool and did not fit neatly under one of the four treatments. A partial reconstruction through ghost framing and a full reconstruction of one Greenhouse is presented here as a mixture of approaches that may address site, garden volunteer and visitor needs effectively.

3. Conversation with Lena Kipp, former estate resident, January 26, 1994.

II: RESTORATION TREATMENT APPROACH

INTRODUCTION

The primary preservation treatment for the VMNHS 211 acre cultural landscape is restoration. This restoration approach is portrayed at the property scale showing the division of the property into treatment units on **Exhibit 30: Treatment Units 1993-1994**. It is also shown, without the units divisions on **Exhibit 31: Treatment Plan - Restoration Approach 1993-1994**. These two plans serve as the visual reference for the property throughout this chapter. They are shown as overall property drawings reduced to fold-out page size and are also included at larger sizes as illustrations for the individual treatment unit discussions.

In several areas, where portrayal at a greater level of detail serves to clarify the approach, these plans are augmented by a series of schematic design sketches. Three exhibits show ten areas of the property that are proposed as subjects for restoration treatment. These exhibits are included in the drawing set as three sheets, **Exhibit 32: Treatment Details - Planting 1993-1994**, showing the Mansion Foundation Planting, Main Gate Planting and Flowering Tree Grove; **Exhibit 33: Treatment Details - Planting & Circulation 1993-1994**, showing the Overlook Drive and Path, Bard Rock Drive and Parking, River Gate and North Gate and Bard Lane; and **Exhibit 34: Treatment Details - Planting & Circulation 1993-1994** showing the Mansion and Pavilion Circulation, and the Coach House in both interim and future forms. The individual detail drawings shown on these sheets are included as page size illustrations in this chapter. All of these drawings are sourced in this report in Appendix D: Source List Exhibits 30-37 and as **Exhibit 38: Source List Exhibits 30-37** as part of the drawing set.

A special study of the complex landscape of the Formal Gardens was conducted and resulted in two detailed drawings that portray the built elements and plantings of the later Vanderbilt years, targeting a period from 1917 to 1934 and focusing on the design work of Robert B. Cridland as overlaid on the contribution of James Greenleaf and Meehan Nurseries. These drawings, **Exhibit 35: Treatment - Formal Gardens 1993-1994** and **Exhibit 36: Axonometric View - Formal Gardens 1993-1994**, represent a synthesis of the historic documentation that portrays the late Vanderbilt Formal Gardens.

The treatment of the woodlands and meadows found throughout the property are shown in **Exhibit 37: Woodlands/Meadow Treatment, 1938-1991**, which represents a synthesis of the historic documentation from 1938 to 1991. This is shown as an overall property drawing reduced to a fold-out page size drawing.

In this chapter a conceptual treatment plan for each treatment unit is developed based on the broad restoration philosophy for the preservation of the cultural landscape. This work has a foundation in the previous Cultural Landscape Report for Vanderbilt Mansion National Historic Site, Vol. 1, (CLR VMNHS, Vol. 1) and in project directives developed in recent years to address the natural and cultural resources of the VMNHS landscape. 1994 real cost estimates were developed in conjunction with these restoration projects and are included in Appendix G: Project Lists & Preliminary Cost Estimates. Additional field and historic research was undertaken to provide clarification, as needed, for this chapter. The status and results of these investigations are also included in the Appendices. Appendix E: List of Repositories Consulted and Outcomes

summarizes the outcome of the historic research and oral history information was gathered from Hyde Park residents in Appendix F: Oral History Records.

Relationship to Previous Planning Documents

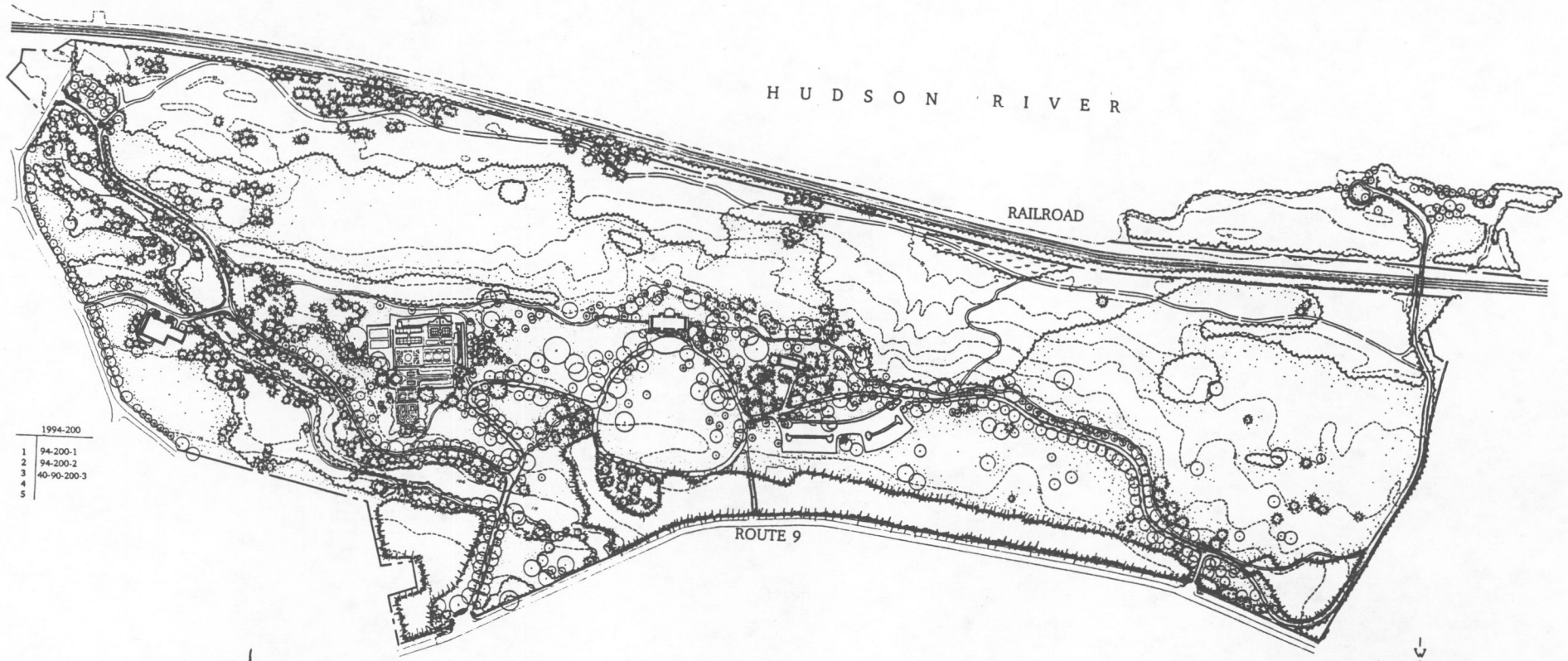
This Cultural Landscape Report for Vanderbilt Mansion National Historic Site, Vol. 2, (CLR VMNHS, Vol. 2), in general is in compliance with the major planning document for the Vanderbilt Mansion National Historic Site, the January 1976 Final Master Plan. There is minor shift in emphasis between the 1976 plan and this Cultural Landscape Report. The Final Master Plan proposes that the period from 1900 to 1917 be emphasized, since the estate was most socially active at this period of the Vanderbilt's ownership. The selection of these dates was based, at the time, on a detailed knowledge of the Mansion and relatively little precise knowledge of the estate landscape. The primary purposes of this National Historic Site are to:

- to explain the significance of the Vanderbilt's and their era;
- present the estate and mansion lifestyle to present and future generations; and
- to illustrate the relationship of these people to their environment.[1]

The Final Master Plan set forth an interpretive concept that emphasized the "visitor appreciation and understanding of the estate features beyond the mansion."[2] This Cultural Landscape Treatment Report aligns with that desire by focusing on the estate landscape as an important and significant component of the property. The Final Master Plan details areas, features, structures and views to be restored, reconstructed or preserved. Most of these parallel the recommendations made here as reflected in an overall restoration approach to the property.

The need for adequate documentation of a number of cultural landscape features requires a broader period of emphasis than the 1900-1917 set for the Mansion, extending instead through the 1930s. Available documentation on the cultural landscape tends to cluster around the early Vanderbilt years directly after 1895 encompassing the intensive construction phase and the late Vanderbilt era and early NPS transition years, with a greater level of landscape detail provided in this later period. One good example is the Formal Gardens, which have been documented to a high level of detail during the late Vanderbilt period. There is a lesser amount of definitive Formal Gardens information from earlier periods, such as the Langdon ownership and the early Vanderbilt years, that will provide the detailed level of documentation necessary for an accurate portrayal of this garden and a number of other landscape features. The character and detailing of other landscape features is also well documented to the late Vanderbilt years, including the important specimen tree collection in the core area.

In addition, the selection of the 1900-1917 period assumes that Frederick Vanderbilt did not maintain the estate grounds to the same level in his later years. There is no evidence to support this, and much to show the opposite view. The grounds were continually maintained. Changes took place and were in the form of gradual accretions, rather than drastic alterations. Using the late Vanderbilt period as a focus also allows the earlier historical layers, of the Bard, Hosack-Parmentier and Langdon periods, to be interpreted because elements remain from these earlier times. The recommendations of this Cultural Landscape Report are consistent with the limited restoration recommended in the Final Master Plan because much of the historic character and features remain and can be preserved while elements that have been lost or deteriorated can be restored based on documentation.



1994-200

1	94-200-1
2	94-200-2
3	40-90-200-3
4	
5	

Reduced Original 11x17

SYMBOL KEY: TREATMENT PLAN

- Drive, Curb & Gutter
- Drive, Vertical Curb
- Drive, No Curb
- Woodland Drive
- Pedestrian Walk
- Wall
- Parking
- Building
- Greenhouse
- Greenhouse Frame
- Bridge
- Subway
- Tennis Court
- Railroad
- Property Line
- Creek/River Edge
- Contour
- Formal Garden

WOODLANDS:

- Deciduous Woodland
- Mixed Woodland
- Conifer Grove

OPEN TURF:

- Lawn
- Meadow

TREES IN OPEN TURF:

- Existing Deciduous Tree
- New Deciduous Tree
- Existing Evergreen Tree
- New Evergreen Tree
- Flowering Trees
- Shrub Mass

TREES BY CANOPY SIZE:

- 0-12" Caliper
- 13-24" Caliper
- 25-36" Caliper
- 37-48" Caliper
- 49-60" Caliper
- 61-72" Caliper
- +73" Caliper

W S N E

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE NORTH ATLANTIC REGIONAL OFFICE
CONTRACT: CX 1600-0-0085, 1990-1994

CULTURAL LANDSCAPE REPORT: LANDSCAPE PRESERVATION TREATMENT VANDERBILT MANSION NATIONAL HISTORIC SITE

HYDE PARK, NEW YORK

0 100 200 500 1000

PREPARED BY
LANDSCAPES, WESTPORT, CONNECTICUT
PATRICIA M. O'DONNELL, ASLA, APA
WITH CYNTHIA ZAITZEVSKY, PhD

31: TREATMENT PLAN - RESTORATION APPROACH
1993 1994

Compliance Issues

This Cultural Landscape Report addresses preservation treatment through a wide range of individual projects of varying scopes. All specific actions proposed must undergo review to ensure their compliance with appropriate Federal and State laws and regulations. This review is not expected to be undertaken using this CLR VMNHS, Vol. 2. Each project will be subjected to thorough review under some or all of the following acts:

- National Historic Preservation Act, Section 106;
- National Environmental Policy Act (NEPA);
- Clean Water Act, Section 404 (regarding activities in Federal wetlands);
- State Environmental Quality Review Act (SEQRA).

The nature and extent of each future project will determine the types of reviews required. The necessary reviews will take place when a specific project has secured funding and or staffing support and is intended to move toward implementation.

RESTORATION TREATMENT IMPLICATIONS BY TREATMENT UNIT

Restoration as a preservation treatment implies both a high level of documentation and a detailed project approach that stresses authenticity. Drawing on the CLR VMNHS, Vol. 1 and the additional research conducted in this phase, the relevant historic research, source materials, and character-defining features of each treatment unit are described. The implications of a restoration approach are then extrapolated onto each unit to generate a text and drawings that portray the result of the anticipated treatment projects. All projects are described with an appropriate level of focus on the potential threats to the integrity of their associated character-defining features. Comments concerning the level of deterioration and need for treatment are included when applicable. This foundation provides a basis for discussing the implications of restoration to each of the eleven treatment units and their specific restoration projects. The 211 acre landscape at VMNHS is divided into spatially and functionally organized treatment units as seen on Exhibit 30: Treatment Units 1993-1994. Nine of these address areas of the landscape of varying sizes and two address linear elements, the drive system and the perimeter walls. Exhibit 31: Treatment Plan - Restoration Approach 1993-1994 illustrates the overall restoration proposed for the property.

Main Gate & Entry Sequence, Treatment Unit #1

The Main Gate & Entry Sequence is a sloping area that encompasses the landscapes adjacent to Crum Elbow Creek with the drive descending the grade to the creek and rising up again to meet the South Lawn and Great Circle. This entry sequence, organized in the picturesque tradition, first appears in the Hosack era and takes advantage of the watercourse and topography to provide a sequence through space enclosed within the creek valley. It is a visually contained area that has a distinct character, separate from the adjacent Formal Gardens, South Lawn and Great Circle.

Documentation: This area, noted as unit #1 on Exhibit 30, is shown as a detail in Figure 24. Historic source materials for this area include Vanderbilt era surveys and photographs, NPS photographs and partial coverage of the area near the Great Circle in a 1941 tree survey that accompanied the first NPS master plan. A valuable Vanderbilt era plan is the topographic record of the Crum Elbow Creek bottom for the two areas flanking the White Bridge.

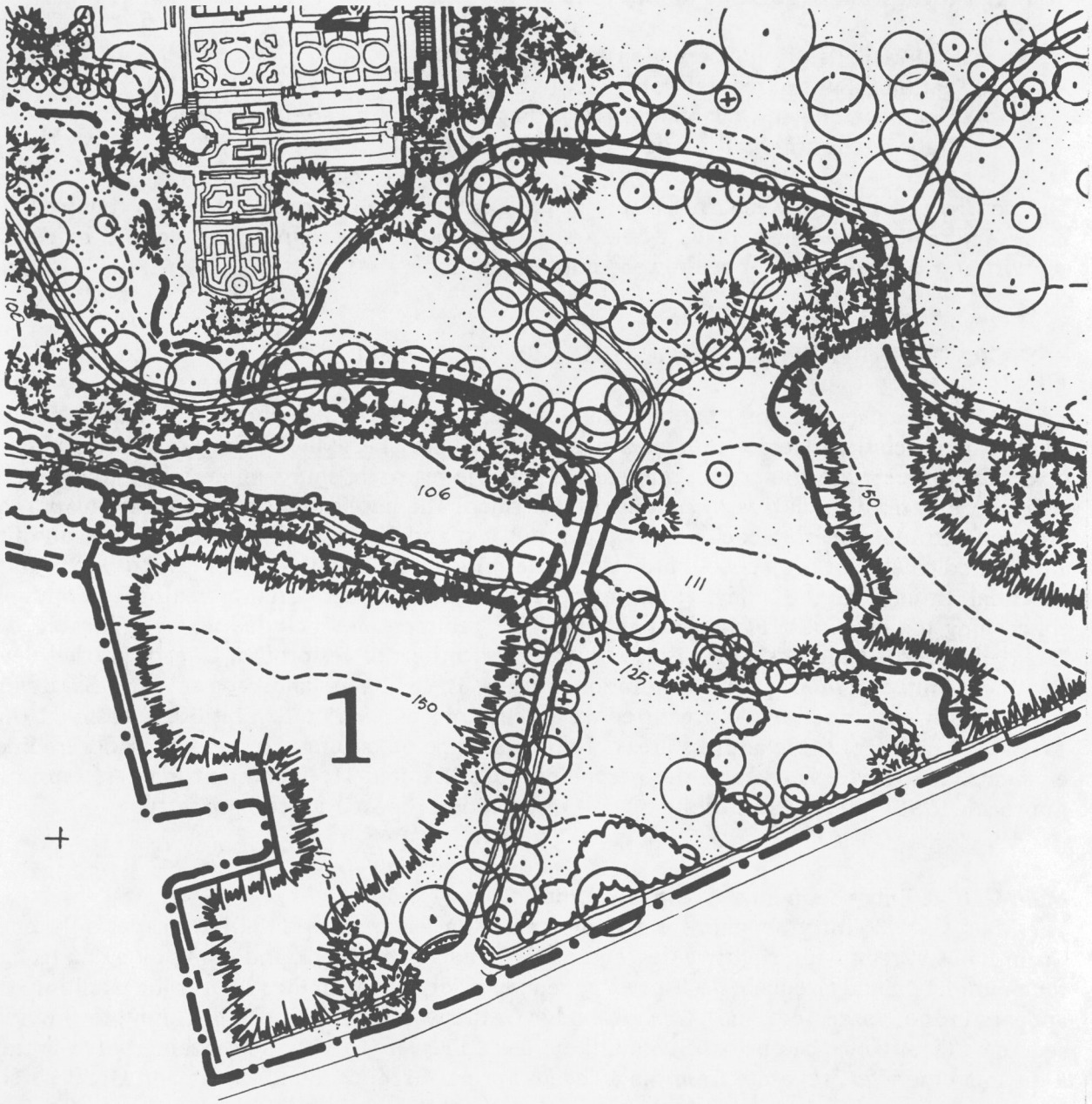


Figure 24. Recommended restoration treatment of Unit #1, Main Gate & Entry Sequence, a detail from Exhibit 30: Treatment Units, 1993-1994. LANDSCAPES.

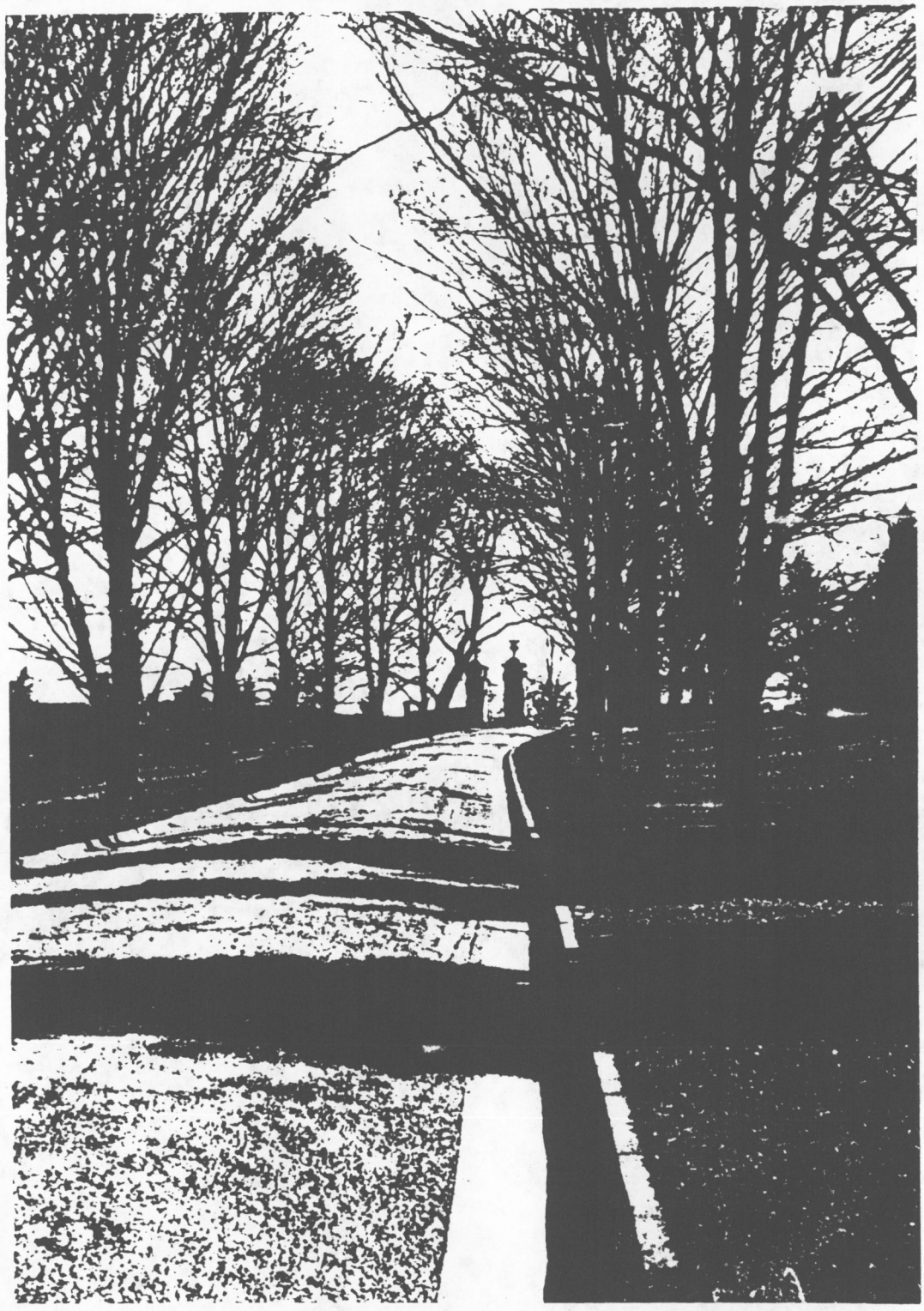


Figure 25. View of the drive looking toward the Main Gate from the White Bridge. F. Shears Hambleton private collection, 1926, donated to VMNHS.

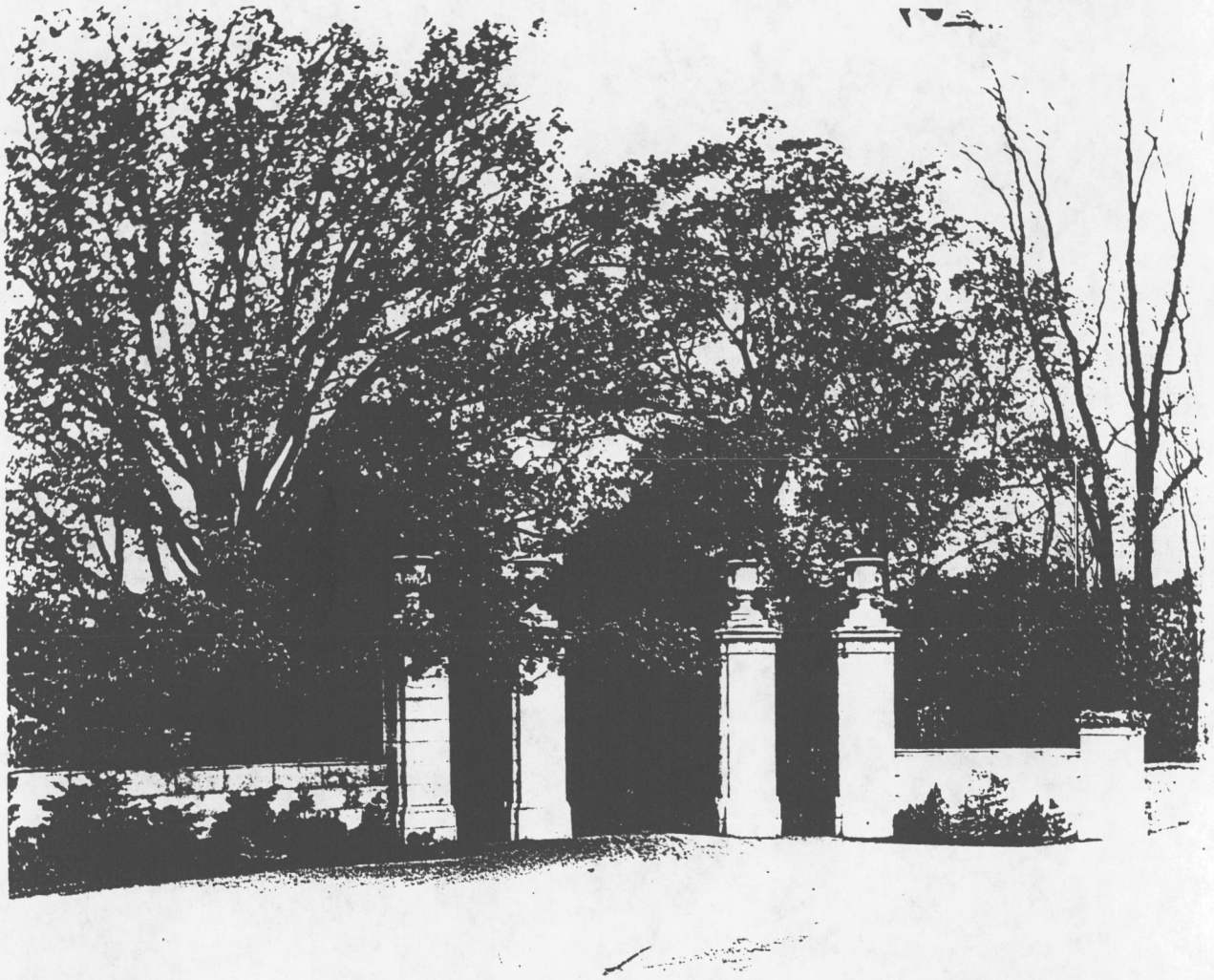


Figure 26. View of the Main Gate circa 1930s with inscription, "Main entrance to estate backed by two great oaks. Their size can be estimated by the 22 foot granite gate piers. What appears to be a dead tree at the right is a giant locust that dropped its leaves earlier than the oaks. The Locust is one of a group of three perhaps grown from seeds the Bards planted during the Revolution". Donated by Helen Meyers, Hyde Park Historical Society.

Some archival documents were published as figures in Volume 1, and others that are included in this report. Figure 13 is an overall property survey, dated 1898, that is an important reference for the gates, drives, paths and structures after the extensive construction activity undertaken in the early Vanderbilt years. Built elements are depicted with accuracy on this survey but the plantings are rendered in a unreliable, schematic manner. This drawing shows the Main Gate & Entry Sequence in a useful level of detail when paired with other documentation. An important reference is the 1" = 40' survey of the Main Entrance, extending from the Albany Post Road to the White Bridge, (Vol. 1, Figure 54), by J.S. Burley, Surveyor, circa 1900, which shows the organization of the semi-circular entry walls, paving and planting beds, and the topography and plantings from the Main Gate extending toward the White Bridge. An early Charles Piersaull view, circa 1899, shows the Main Gate Lodge and a portion of the entry wall prior to the planting of the wall (Vol. 1, Figure 67).

One previously published Vanderbilt era photograph of this treatment unit (Vol. 1, Figure 193) is supplemented by two 1926 views (Figures 3 & 25) and an undated view (Figure 26). Two more contemporary views of the Main gate, circa 1980, show it overgrown with Eastern hemlock plantings along the curving walls (Figures 1 & 2). All the available documentary sources were used to develop the restoration approach.

Summary of Character-Defining Features: This area, shown in Figure 24, provides a visual reference for its topography, vegetation, spatial organization and other elements of historic character. The rolling topography of the area creates a sinuous entry drive, descending from Route 9 towards Crum Elbow Creek, crossing over the White Bridge and rising up again. The spatial relationships are created by the topography, mature deciduous trees over lawn, creek and partially forested perimeter.

The character-defining features begin at the Main Gate with the built elements of the dressed stone walls, urns, decorative iron gates and their former plantings which provide a setting for the main entrance and the Mckim, Mead & White Gate Lodge. Continuing deterioration threatens the Main Gate walls and iron work, which require attention in the short term. While the entry planting beds remain, the former plantings are lost, with the exception of one Spruce tree. These plantings softened the geometry of the circular entry wall.

Vegetation shapes the spaces of this area. Upon passing through the gates views are directed to Crum Elbow Creek and the White Bridge by the framing of the drive in the flanking double tree row. This even aged stand of predominantly Sugar maple trees has begun to show losses. Deciduous trees, arranged in a less formal pattern, frame the drives transitioning up the grade toward the great Circle and along the creek to the south. Crum Elbow Creek, widened by Frederick Vanderbilt on both sides of the White Bridge, provides a generally placid, broad water surface in this small valley. The irregular edge of the creek is no longer planted to emergent aquatic plants as seen in Figure 27. The White Bridge, spanning the creek is an important scenic element within this composition. Informally arranged deciduous and some evergreen trees, in sloping lawn, are found near the creek edges and moving up to higher ground in both directions. Dense evergreen trees create the edges for this area to the south of the entry and to the north west, as the east side of the White pine buffer that provides an enclosing edge for the Great Circle. Overall, the historic character of this area has been altered through losses of vegetation and details that can be replaced.

Implications for Restoration, Anticipated Treatment Projects, Unit #1: Deteriorated and lost character-defining features would be repaired or replaced in-kind as applicable and illustrated in Figure 28. The Main Entry walls and gates would be restored. The rubble core of these walls is judged to be substantially deteriorated and complete disassembly and reconstruction using original stone facing materials over a new core may be required. The iron gates and iron panels would be stripped of old paint and rust, missing details would be replaced and new paint applied. Gate hinges would be made operable.

The semi-circle of paving at the Main Gate would be replaced, potentially with an asphalt pavement at full depth over the Vanderbilt telford stone base. A chip seal surface may be added to give the visual appearance of the surface stone dust and fines of the Vanderbilt era. A vertical cast concrete curb would be restored along the edges of the planting beds to match the historic curbs which are colored to resemble bluestone.

To reinstate the lost entry plantings, the planting beds at the face of the entry walls would initially be excavated to remove salt-laden soils. A gravel drainage layer would be placed at about three feet in depth and covered with filter fabric. Fertile, well drained topsoil should then fill the planting trenches to serve as a viable planting medium for the replaced historic plantings. About forty evergreen plantings would be reinstated, restoring the area as shown in good detail in period photo in Figure 26. The planting scheme uses bands of evergreens at several heights, punctuated with different plants to frame the Gate House gate. Figure 28 is a drawing of the proposed plantings that provides a genus level identification. A further study of the historic photographs by an expert will attempt to refine this information to a species and, possibly variety level and this information will be used in plant replacement.

The 330 lineal feet of gravel path from the White Bridge to the Great Circle would be slightly excavated and topdressed with a stone layer that matches the samples from historic walks. This surface material, placed at about two inches thick, would be stabilized to combat erosion.

The main entry drive trees are a formal feature, as seen in Figure 25, which shows a view up the drive toward the Main Gate from the White Bridge. Ten pairs of trees can be counted flanking the drive, from the Main gate to the White Bridge, in an 1947 aerial view (Figure 29). If the replacement of lost trees within this formal feature is in-kind as they demise, over time a mixed age stand will replace these formal, paired rows. A more desirable approach may be to allow the incremental loss of trees until half of them remain and then to replace the entire feature with a complete group of young trees. To retain the genetic material, the new trees could be propagated from the existing ones.

All historic trees within this area would be given adequate care, to include pruning and cabling as necessary. One hundred and one deciduous trees and seven evergreen trees are portrayed on the plan. Over a period of three to five years each tree should be treated as needed.

In addition, the woodlands to the south of the Main Entry would be given necessary care annually to address the overall condition of all vegetation. An adequate level of care has been calculated at four person days per year per acre. This level is intended to manage the forest effectively and promote its health and sustainability through suppression of invasive species, care of mature trees and encouragement of natural regeneration of desirable species.

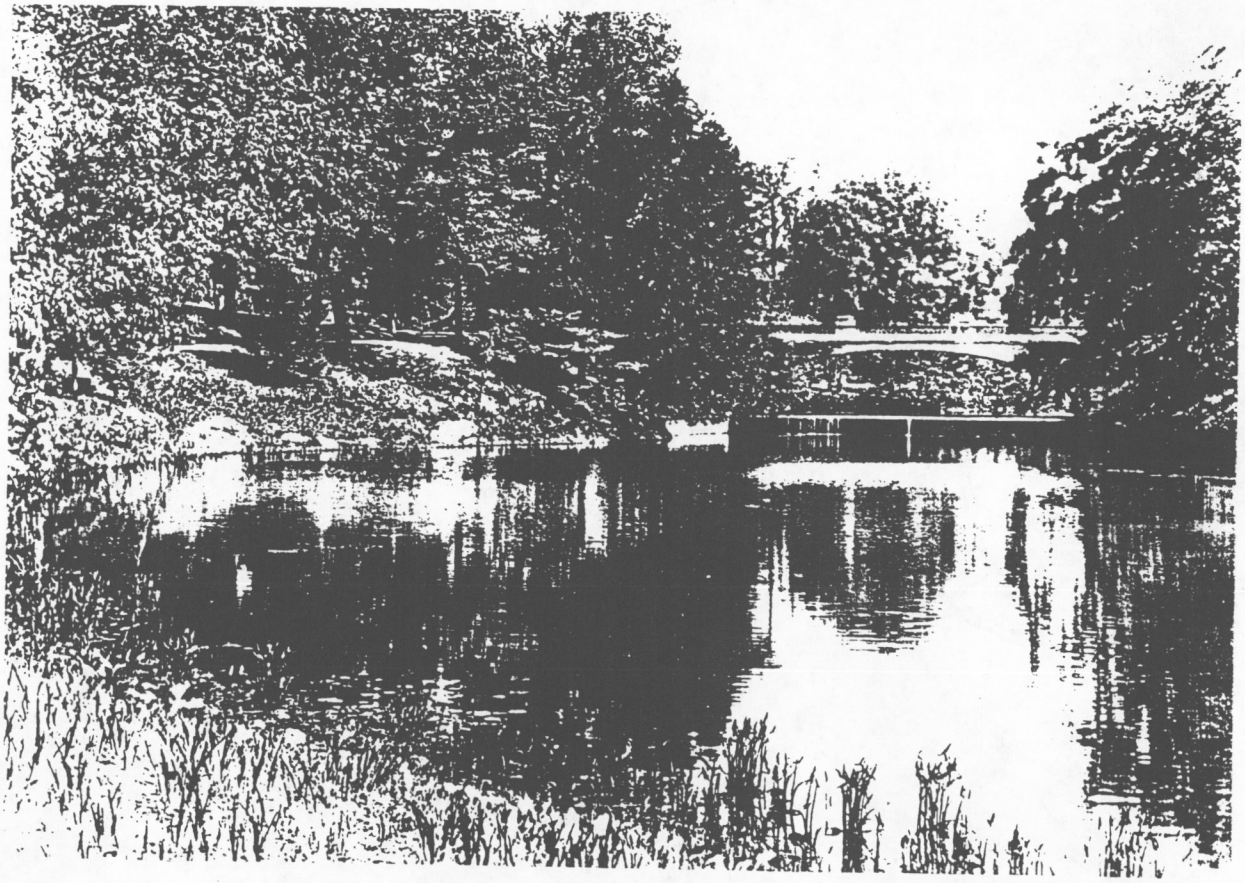


Figure 27. Plantings along Crum Elbow Creek to the south of the White Bridge, undated. Hyde Park Historical Society.

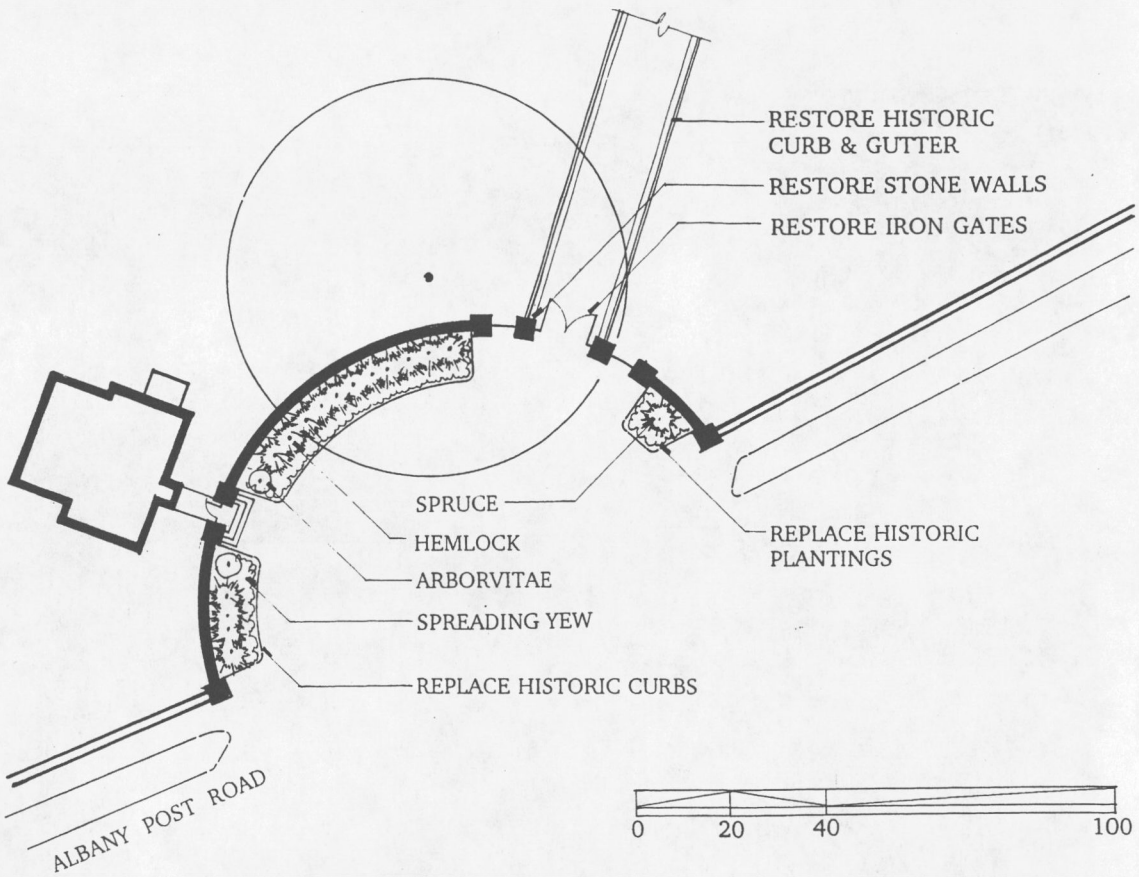


Figure 28. Recommended restoration treatment of the Main Gate Planting, 1993-1994. LANDSCAPES.

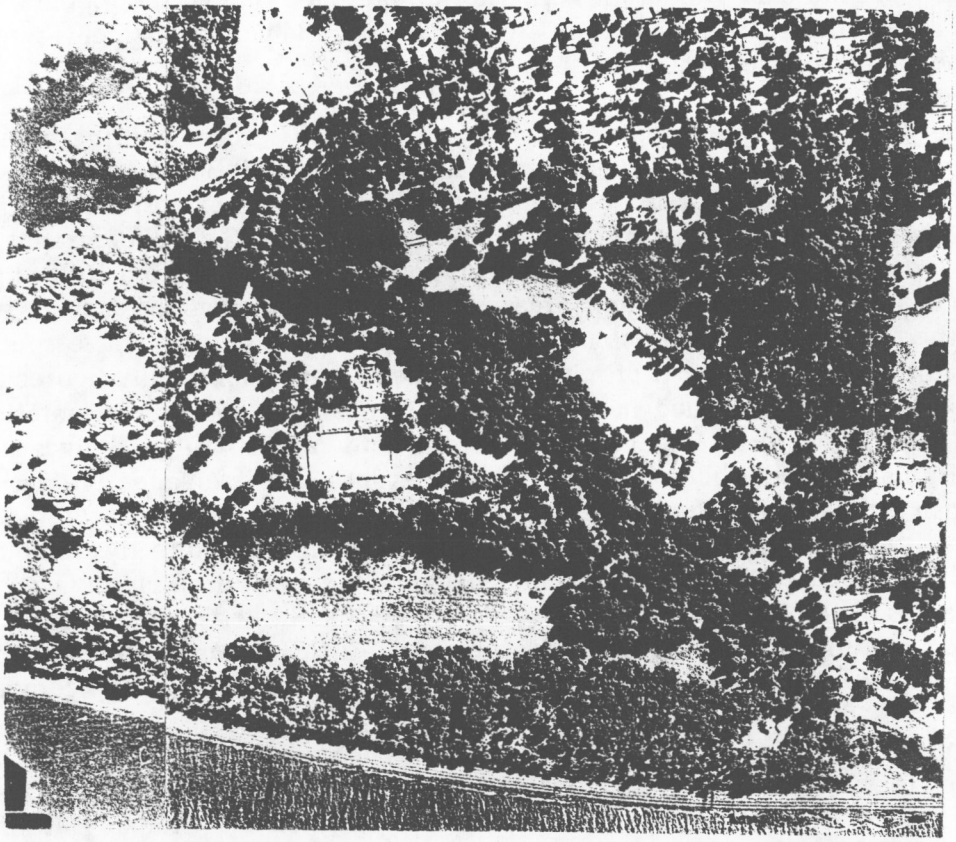


Figure 29. Aerial photograph of the Vanderbilt estate, 1947. Dutchess County Soil & Water Conservation District.

Aquatic plantings along the margins of Crum Elbow Creek would be restored as shown in Figure 27. At this time Crum Elbow Creek appears to be relatively close in shape to the Vanderbilt years. In the future, if and as the creek basins deteriorate, Vanderbilt era drawings of Crum Elbow Creek would be of use in assessing changes in the shape and depth of the creek to both sides of the White Bridge. These drawings can be used to return these pools to their historic depth and form. The dam under the White Bridge is deteriorating and will require repair or partial replacement.

Overall the landscape preservation treatments proposed within the Main Gate & Entry Sequence focus on repair and replacement in-kind to address deterioration of character-defining features. In this area priority should be given to the walls and gates of the entry due to their level of deterioration.

Formal Gardens & Landscape Surround, Treatment Unit #2

The Formal Gardens and their enframement with walls and plantings create a distinct space with a detailed horticultural focus unique to this property. This separate area is characterized by the former massing of greenhouses and buildings, the geometric terracing of the descending topography and the shaping of each space with enclosing walls, fences, pergolas, hedges and building masses. The Formal Gardens areas has suffered the loss of many character-defining features from the Late Vanderbilt period to the present although the topography has remained largely intact and much of the masonry walls and steps and pergola elements remain or have been repaired using historic documentation.

Documentation: Treatment unit #2 includes the Formal Gardens and the immediate landscape surrounding these gardens. A detail of it, taken from Exhibit 30, is seen in Figure 29. Historic source materials for this area are extensive. They include an extensive collection of Vanderbilt period plans and photographs and a more modest group of NPS era photographs, plans, plant lists and reports. The Vanderbilt photo documentation spans the years from 1908 through the 1930s. Within this time frame the different areas of the gardens remained the same or where completely redesigned which makes various pieces of the documentation relevant to specific areas within specific time spans. A number of relevant documents were published as figures in Volume 1, and additional ones are included in this report as figures and appendices materials. Appendix B: VMNHS Formal Gardens Documentation for the Late Vanderbilt Period gives a complete record of plans, plant lists and photographs that are relevant to the late Vanderbilt dating of the Formal Gardens portrayed in the restoration treatment plans. Appendix C: Plant Lists - Formal Gardens provides lists for all garden plans, either with plant lists inscribed directly on the plan or separated from the plan as lists that were used in developing the restoration plans. Overall, the collection of materials in both reports provides a record of the complicated evolution of the Formal Gardens and their condition during the late Vanderbilt years. All the documents that reveal this later period are assembled herein so that restoration efforts can draw directly on this compilation.

The only overall drawing created for the garden area is the "Detail Arrangement of Gardens prepared for F.W. Vanderbilt Esq.", by Robert B. Cridland on February 15, 1916, shown in Volume 1, Figure 96. Research indicates that only the lily pond area of the Italian Garden was carried out according to this plan and this detailed portion, shown in Figure 31, clearly indicates the planting beds and numbers of plants that date to the 1916 through 1930 Vanderbilt years. The accompanying plant lists for this area of plan #133 is included in Appendix C. Further plans detail specific features of the gardens as in the "Pergola Plan for F.W. Vanderbilt, Esq., Hyde Park on Hudson, NY, May 2, 1922," also by Robert B. Cridland. This small plan, included as Figure 32,

indicates the specific dimensions and construction of the upright members and square grid roof plane of two pergolas over steps along the east edge of the upper terraces in the Formal Gardens. These plans as well as many of the other plans in the archives show a high level of detail, that is visually documented in photographs. The plans, plant list and photographs together enable the restoration of the Formal Gardens to a high degree of authenticity.

Previously published Vanderbilt era photographs of the gardens are supplemented with additional views. Portions of the Greenhouses are shown in several Vanderbilt era or early NPS era photographs. Figure 33 shows the entry to the Formal Gardens between the Palm Houses from the path that connects to the Mansion. This view is especially important for showing the massing of the two Palm Houses from this vantage point. It also shows the lost iron garden gate that spanned the brick wall entry. A closeup of the opposite side of one Palm House is seen in Figure 34 dated to 1908, which shows details of the fountain and urns that decorated these areas and also shows the planting beds, including a bed of annuals between the Palm House and the brick walls. Figure 35 is one of the only views showing the arrangement of the Carnation Houses and some of the varieties of flowers grown inside the greenhouses.

An important reference for the landscape surrounding the Formal Gardens is a plan by Robert B. Cridland, "Planting Plan for Garden Plat, Estate of Fred'k W. Vanderbilt Esq., Hyde Park, N.Y.", April 30, 1917 at a scale of 1/8"=1', shown as Figure 36.

Summary of Character-Defining Features: The first category of character-defining features for the Formal Gardens is the distinctive topography shaped into a series of steeply sloping terraces and retaining walls. The series of five enclosed terraces responds to the natural, rolling topography of the area and remains generally intact. The built features enclosing the gardens and shaping the spaces include brick walls and piers, pergolas and trellis or fence elements dating from the Langdon and Vanderbilt years which remain, have been repaired or are partially lost. The Carnation Greenhouse, twin Palm Houses and Rose Greenhouse complex were all deteriorated and removed during the 1940s and 1950s. The spatial relationships these structures established within the gardens terraces have been lost. An elaborate circulation system of interior walks and steps provided for movement through and viewing of the gardens. The telford base of coursed stone and gravel is believed to remain below grade, while on some walks the surface gravel has been replaced with an available local material. Character-defining objects and furnishings, both remaining and lost, include a statue, two fountains, eight finials, a lily pond and several benches. Nearly all of the Vanderbilt period plantings were lost during the past fifty years. The exception is three remaining Cherry trees along the Italian Garden walk, which have been joined in recent years by new trees of the same type in the original pattern along this walk. Recent volunteer efforts have reinstated some gravel walks, planting beds and new plantings that generally do not reflect the detailed information about accurate late Vanderbilt period plantings uncovered in this Cultural Landscape Report.

Implications for Restoration, Anticipated Treatment Projects, Area #2: Within the Formal Garden walls and directly around it deteriorated and lost character-defining features would generally be repaired or replaced in-kind based on documentation. The intent is to restore the Formal Gardens to their late Vanderbilt appearance. All enclosing elements, paths, steps, structures and plant materials would reflect the documentation of the late Vanderbilt period in photographs and plans. A depreciation of the overall appearance and details of the proposed restoration is illustrated in Exhibit 35: Treatment - Formal Gardens, and Exhibit 36: Axonometric View - Formal Gardens.

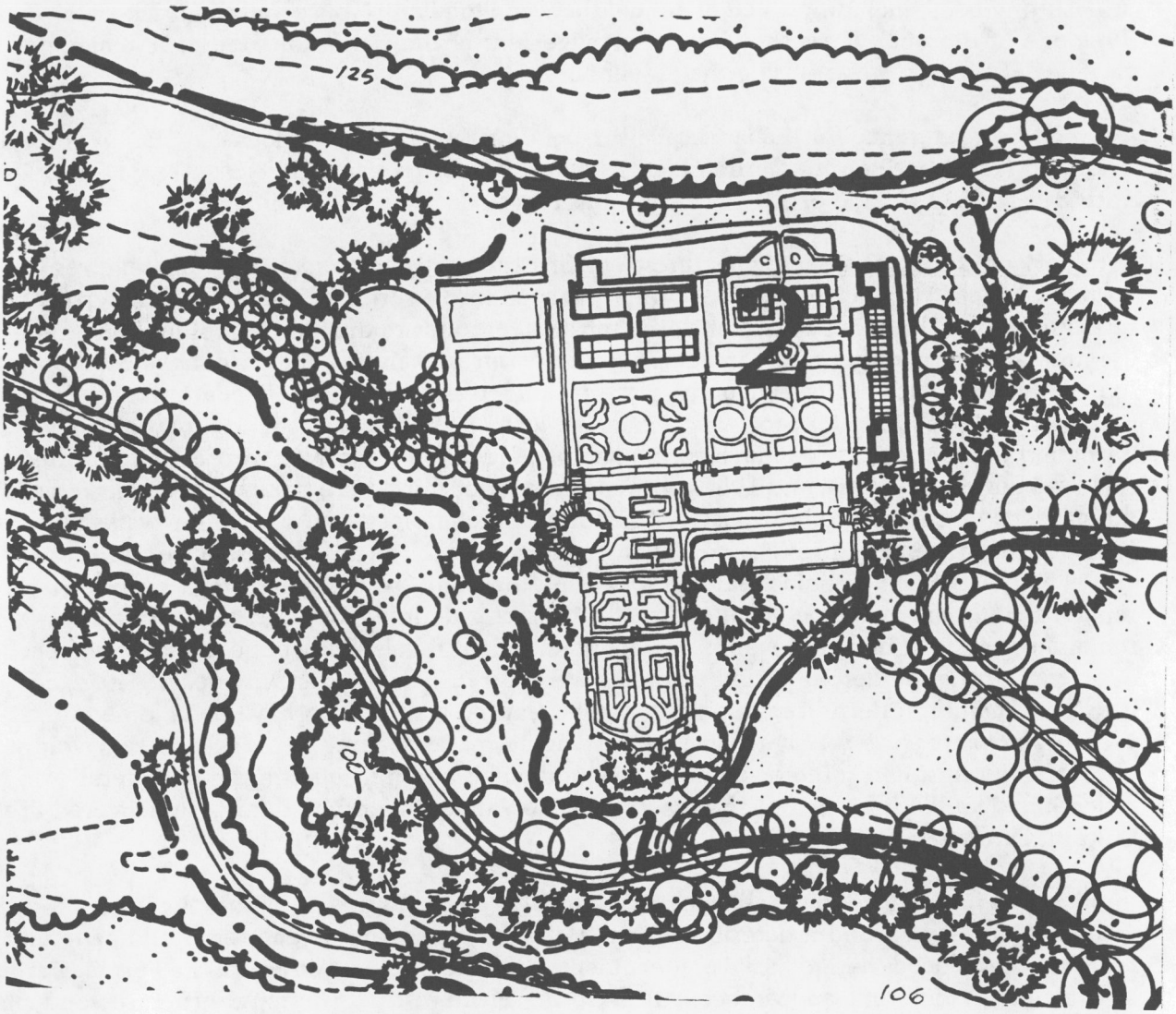


Figure 30. Recommended restoration treatment of Unit #2, the Formal Gardens and Surrounds, a detail from Exhibit 30: Treatment Units, 1993-1994. LANDSCAPES.

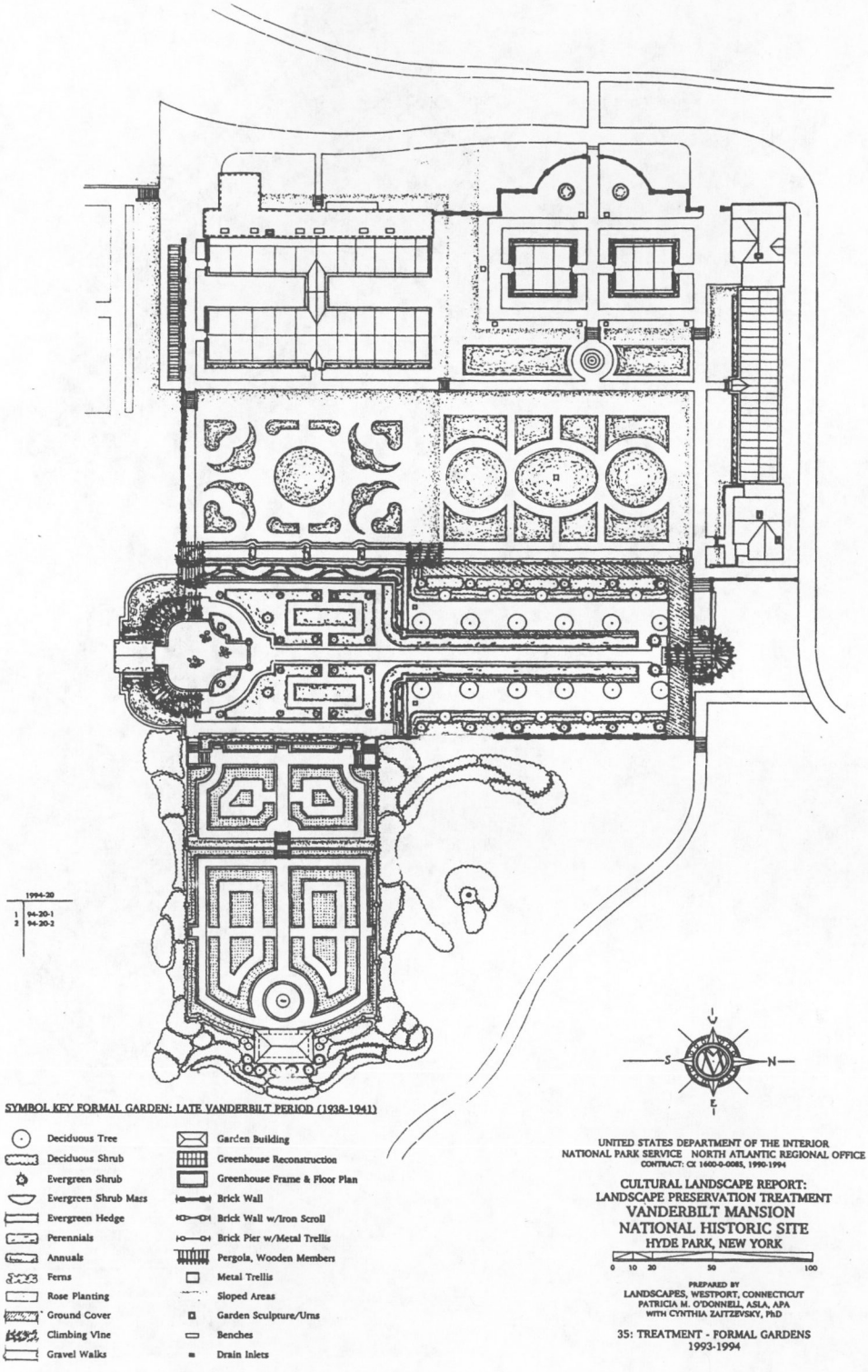


Exhibit 35: Recommended restoration treatment - Formal Gardens 1993-1994, LANDSCAPES.

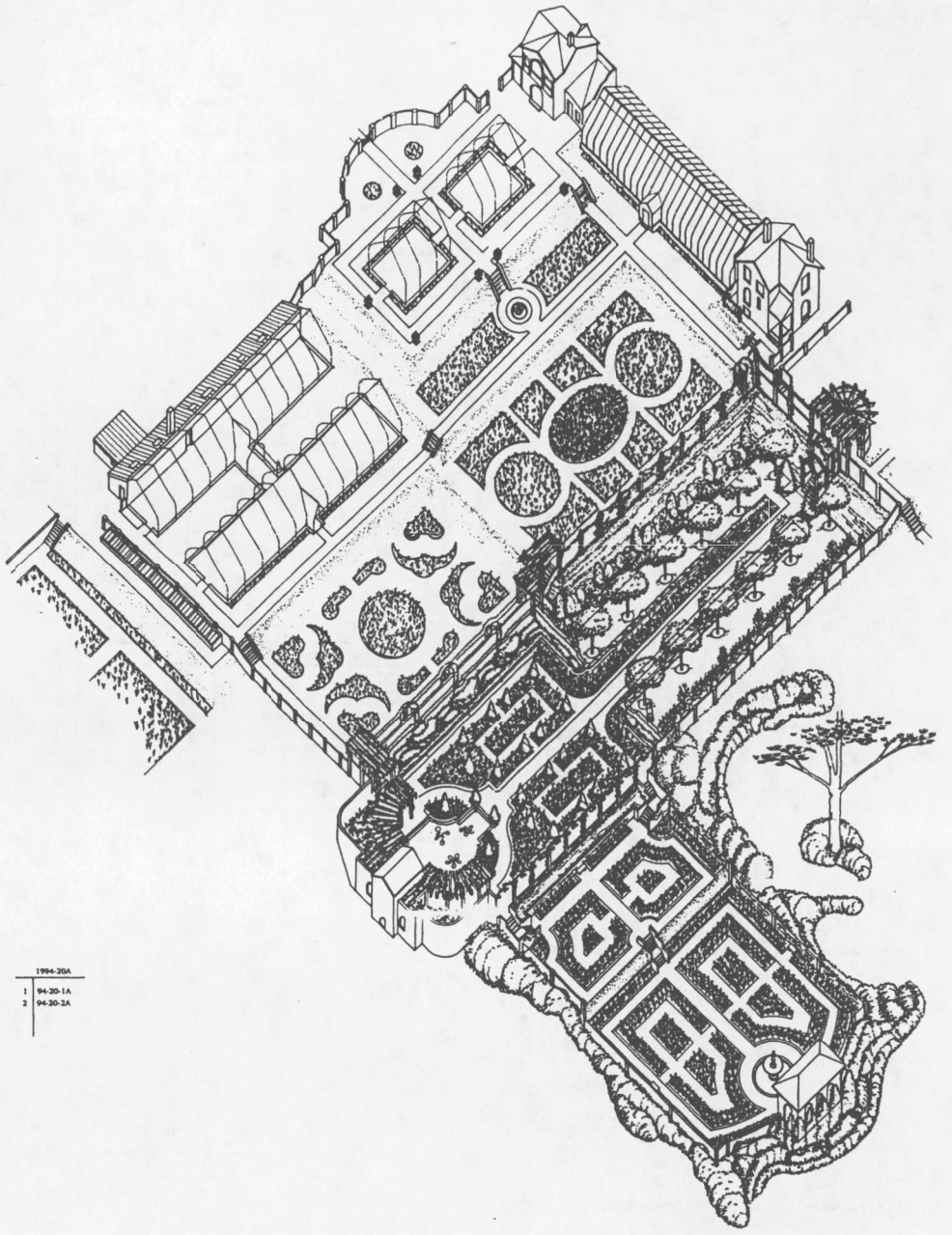


Exhibit 36: Recommended restoration treatment, Axonometric View - Formal Gardens 1993-1994, LANDSCAPES.

In restoring the Formal Gardens handicapped and disabled access needs to be provided to the greatest possible degree while the historic landscape and its character-defining features are respected. This garden area will generally be accessed from the Mansion and the main visitor parking lot. The path from the Mansion to the Gardens will be resurfaced with a stabilized gravel that matches the historic material, aligned on the historic layout. It will meet the necessary 5% gradient, with the possible exception of the short segment that drops over the ridge into a decorative shrub planting that requires further field survey. This path links to the main visitor parking area along a continuous, accessible routing. The main entry to the gardens to the west through the curving brick walls will be an accessible route allowing access to the Palm House terrace. Access to the Rose Greenhouses is also likely to be possible providing for a view over the Cutting Gardens and the bedding gardens. The Italian Garden area would be accessible from a reconstructed Cridland walk, as shown on period drawings and on Exhibit 35, accessed from Gardener's Cottage drive and leading to the Pergola, through a new opening in the brick wall on the east side. This route would provide a dramatic view over the Italian Garden. Figure 37 shows the Formal Garden with these three access routes highlighted. These three areas of access can be provided with no changes or modest alterations to the character-defining features of the historic garden. Providing for additional access would require significant changes to the historic topography, walks, walls, fences or vegetation and is not recommended.

As noted above, previous limited excavations indicate that the coursed gravel base for the primary network of garden paths remain below grade. The proposed cross sections of both gravel and turf paths in the Formal Gardens are illustrated in Figure 38. The gravel paths within the gardens are to be resurfaced to match the historic gravel top course. A sample of this gravel and stone fines material can be obtained through a minor excavation into an undisturbed area of a path.

The grass paths between garden beds require additional stabilization to support visitor foot traffic. A detail of a proposed cross section for this path shows an excavation to a 6" depth which would be back filled with a mixture of topsoil, with 40% of the volume replaced with humus from compost or mushroom soil and crushed stone gravel. This mixture will resist compaction more effectively than a normal grass surface. The new soil should be seeded to hardy grasses predominantly short fescues.

The garden drainage system was constructed in the early years of development of the Formal Gardens. The catch basins and underground drainage lines from this system need to be cleaned out and repaired to become fully functional again. It is believed that this system drains downhill to the margins of Crum Elbow Creek and this drain line also needs to be located and brought to full function. The water supply for the garden as it exists is inadequate to provide for the garden irrigation needs. A new well should be drilled to provide nearby water supply. Lines would be trenched to provide frost-free yard hydrants at 100 FT intervals at each level of the gardens.

Several areas of brick walls and piers are showing substantial surface erosion and loss of pointing. Overall it is estimated to effect 20% of the surface area. These areas of deterioration should be repaired or replaced in-kind as needed. Two segments of brick wall are missing, about 145 feet of wall along the south edge of the gardens and about 45 feet beside the Gardener's Cottage. These two sections of wall should be rebuilt to match the remaining walls. Along the south side of this longer wall, a seventy-foot line of cold frames with divided light sashes was placed. Seen in both aerial and close-up photographs, these cold frames are to be reconstructed with brick foundation walls and wooden sashes.

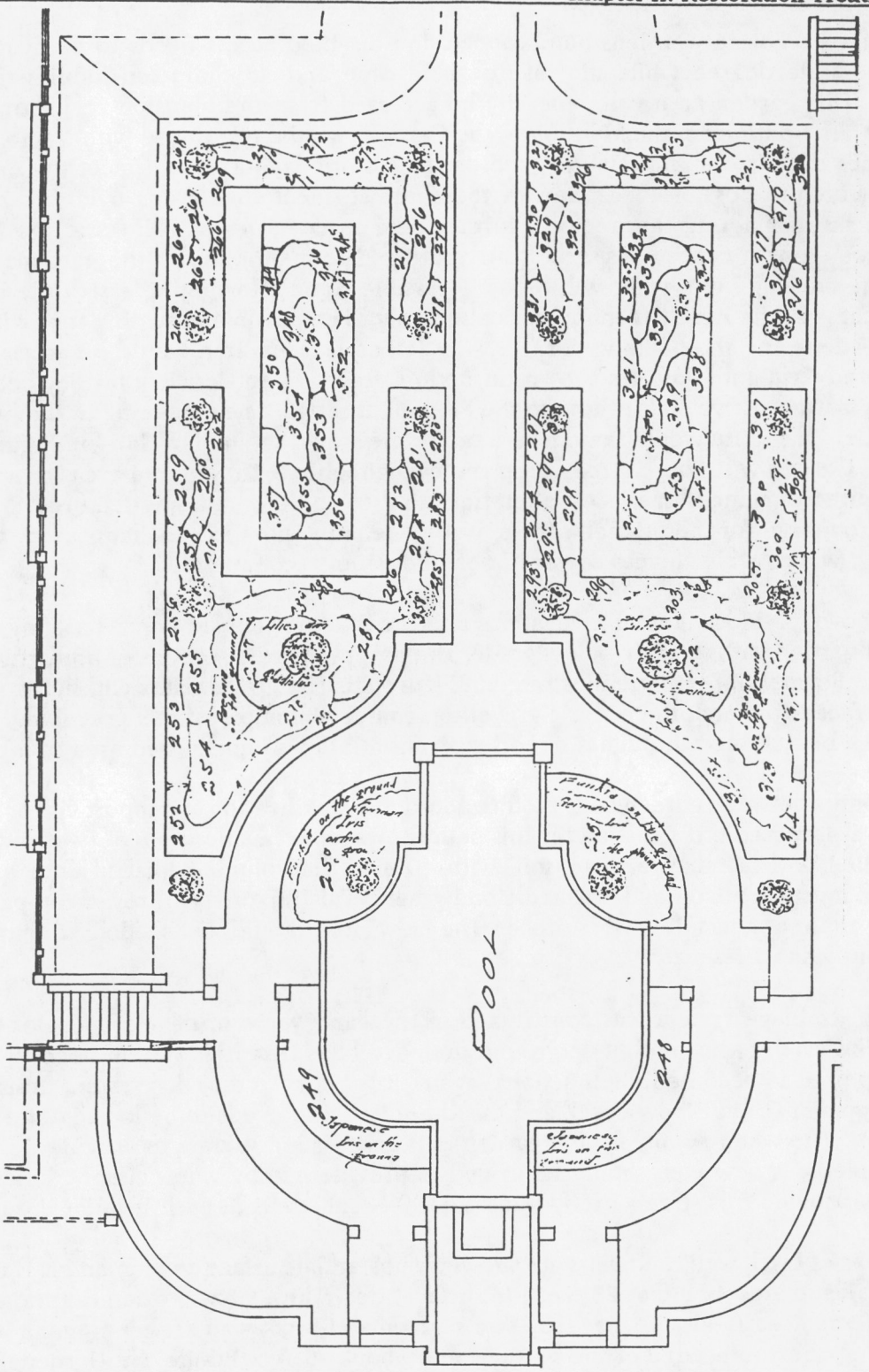


Figure 31. A detail of the pool area from "Detail Arrangement of Gardens prepared for F.W. Vanderbilt, Esq. Hyde park-on-Hudson, N.Y.," Feb. 15, 1916, Robert S. Cridland, Landscape Architect, Bulletin Bldg., Phila., Plan #133. VMNHS, no. V-122A.

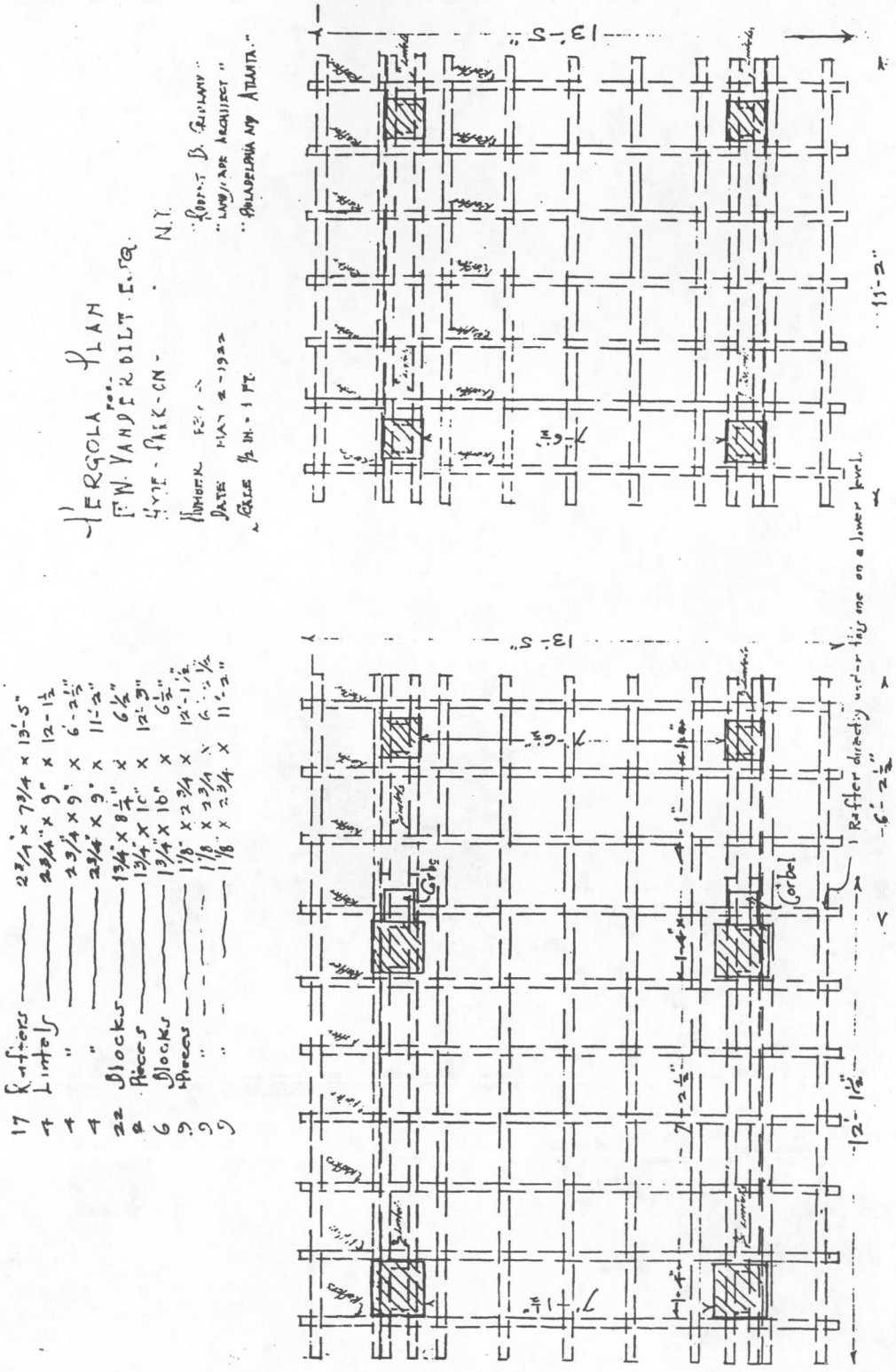


Figure 32. "Pergola Plan for F.W. Vanderbilt Esq, Hyde Park, New York, Plan # V30A, Scale 1/2" = 1 ft, Robert B. Cridland, Landscape Architect, Philadelphia & Atlanta", showing the specific dimensions and construction of two overhead pergolas located in the Formal Gardens. VMNHS.

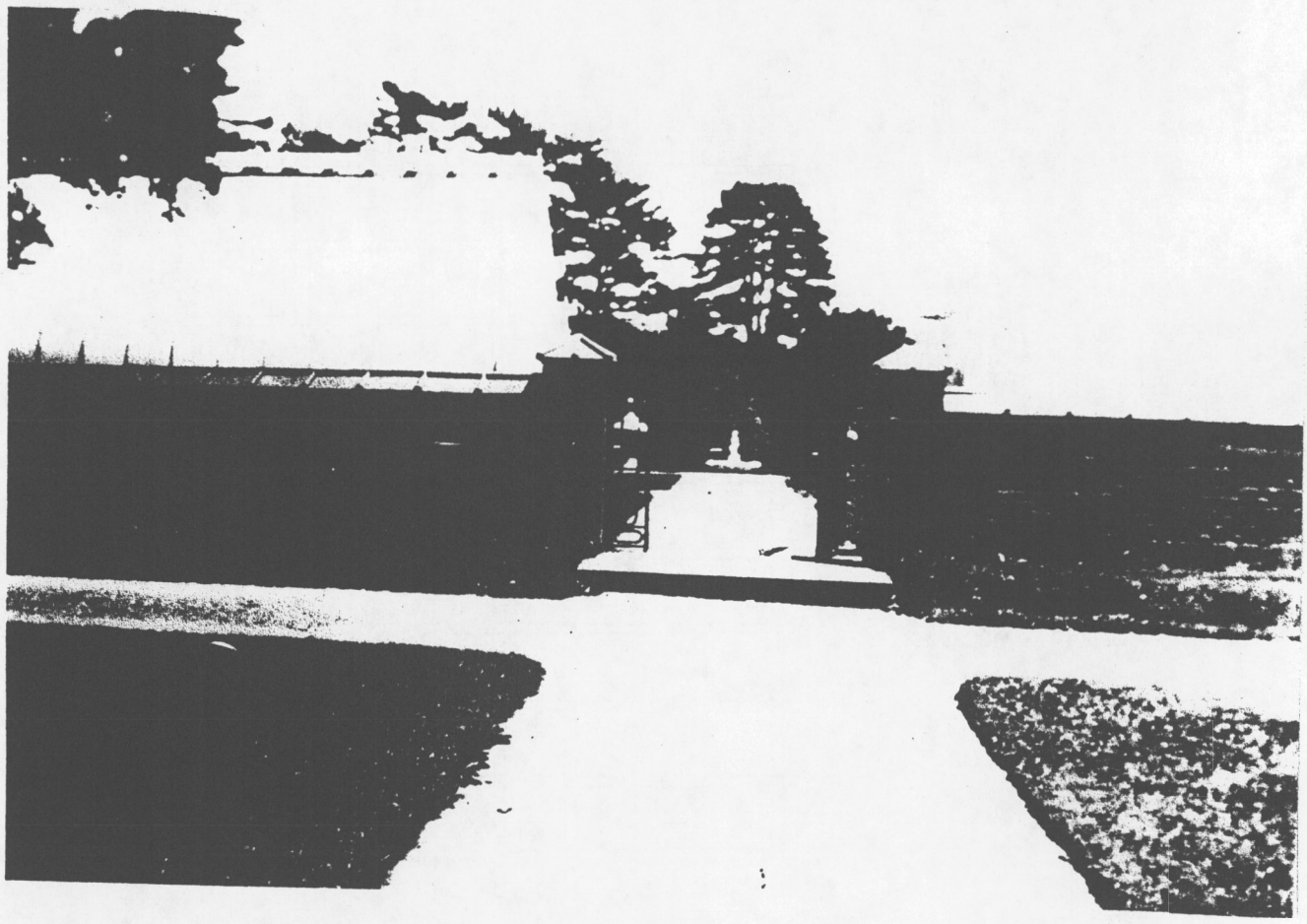


Figure 33. View of the entry to the Formal Gardens between the Palm Houses. Photograph by A. Knauss, circa 1930s. VMNHS, V-93.

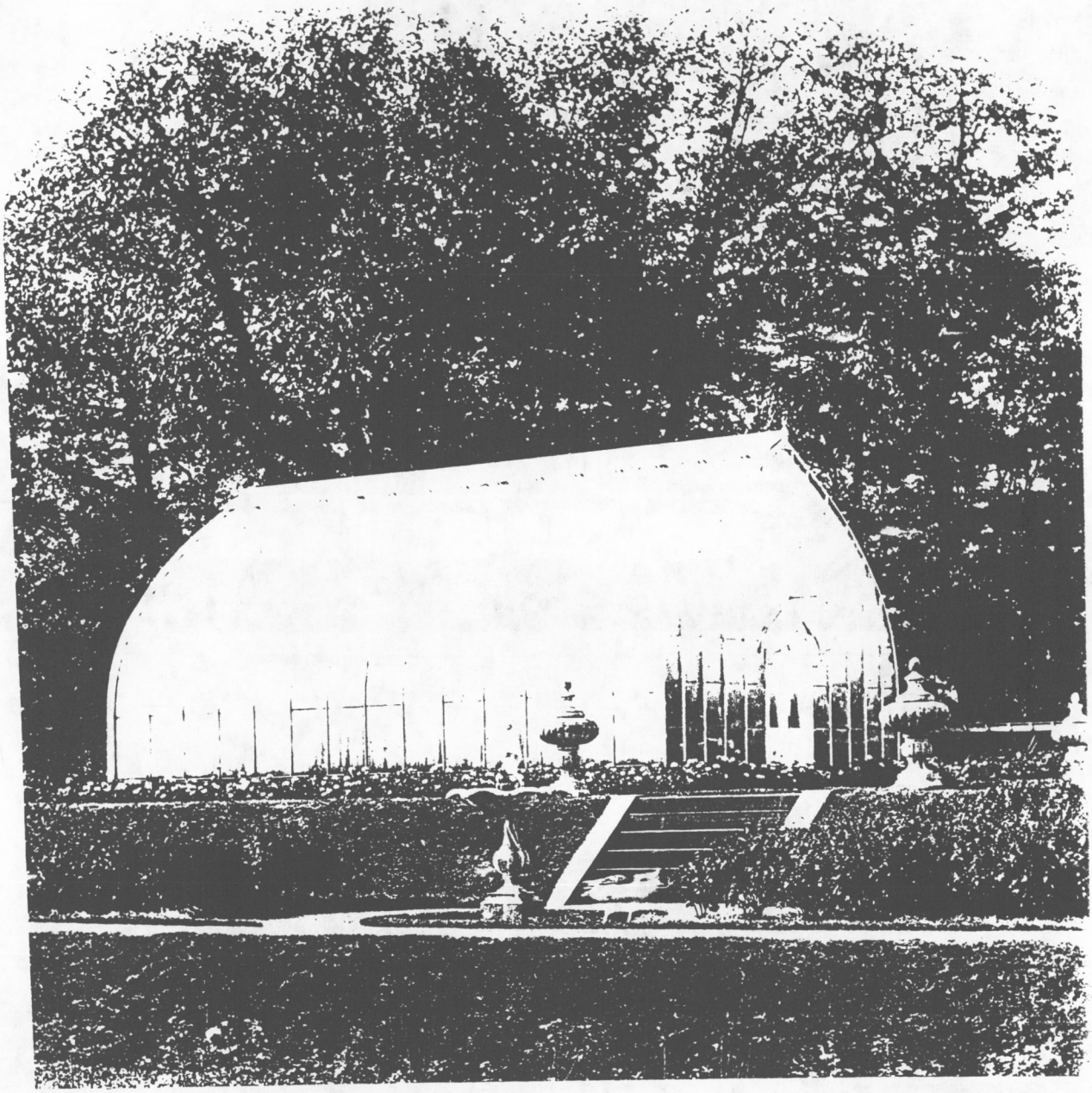


Figure 34. Detail of view of the Palm Houses on the upper terrace of the Formal Gardens showing the small fountain and the stone finials in detail within the garden, slopes and turf setting that remained through the Vanderbilt period, circa 1908 photograph. VMNHS, VM-128.

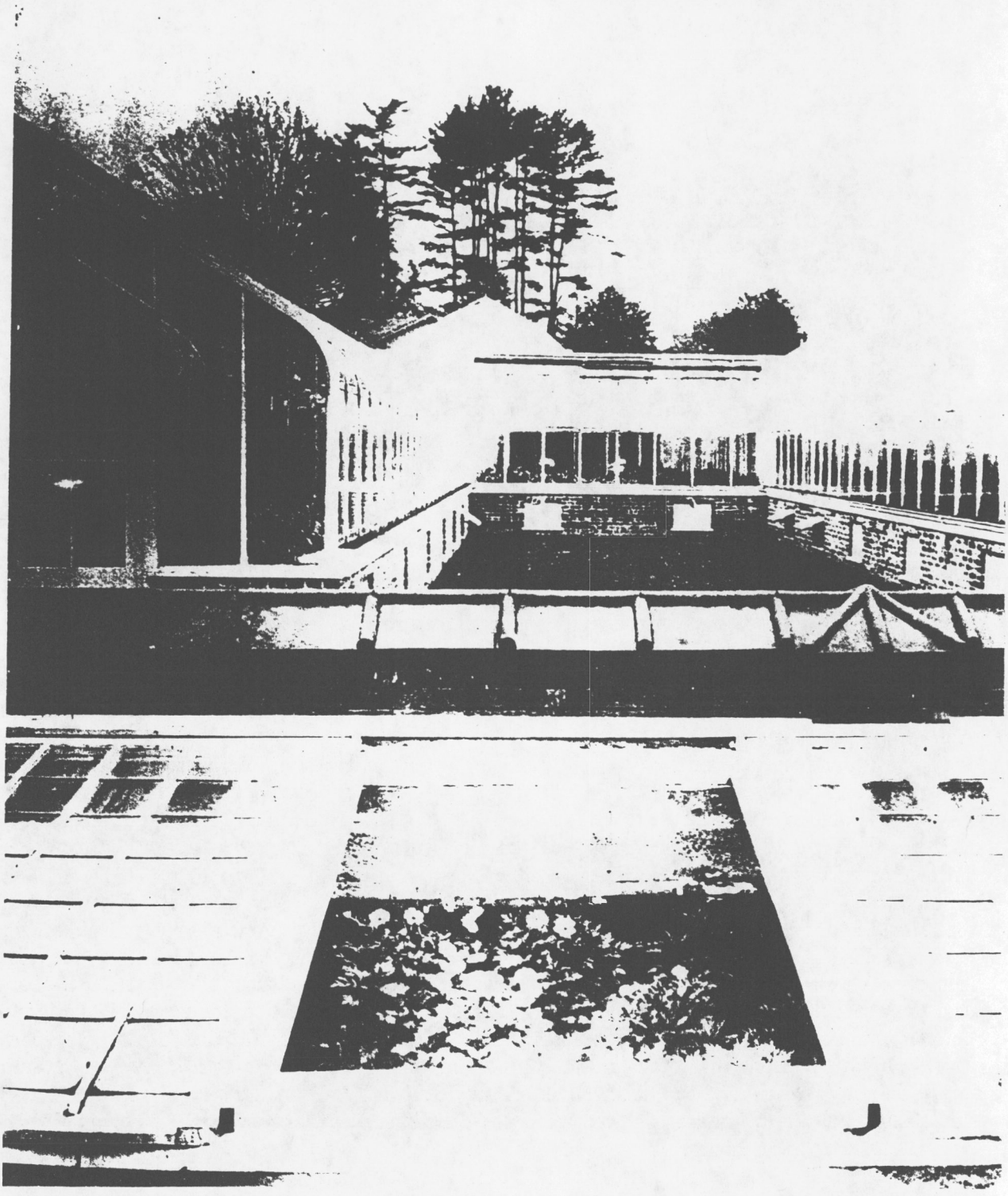


Figure 35. View of the Carnation House in the Formal Gardens. Photograph by Van Tassell. VMNHS, V-2500.

The Rose Garden was surrounded by brick piers and metal mesh fence panels that are substantially lost. Overall about three hundred and ten feet of former fence surrounded this garden on three sides. The metal mesh fence and brick piers created a distinct, linear garden edge that separated the rose beds from the massed shrub plantings that surrounded this garden. Twelve pier foundations remain at the perimeter and are to be reused with new piers constructed based on the two remaining piers.

A number of built elements, gates, arbors, brick piers and fences are missing from the Formal Gardens. Each of these should be replicated based on historic documentation. The lost iron gate at the west entry between curving brick walls is shown in Figure 33. This gate should be fabricated to match historic photograph and installed at this main garden entry. The three lost metal vine arbors along the upper walk should be replaced in-kind. Cridland drawings and photographs document these arbors and remnants of them may exist in the dump area near the River gate.

In addition to these framing walls, piers and fences, a number of sculptural elements and furnishings were located within the gardens during the Vanderbilt years. All of these elements should be repaired or replicated as the Formal Gardens are restored. These elements include the Rose Garden fountain Orpheus figure, the Palm House fountain, eight large scale stone or cast stone finials with remaining pieces and photographs that serve as documentation. A replica of a large cast stone bench also needs to be made. This highly decorative, semi-circular bench was located in the north pergola of the Italian Garden. Pieces of it remain as do photographs. Two extant marble well basins with iron hoops require conservation and stabilization treatment. Five stone benches were located in the Rose Garden and one was found in the lily pool area. Cast stone benches have replaced some of these. Over time replicas of the original benches should be placed in their intended locations.

The spatial organization of the greenhouses has been totally lost today and the visitor wonders why the area seems so open and empty. To recapture the massing of these buildings both reconstruction and ghost framing are proposed. One of the greenhouses within the gardens is to be reconstructed. The Carnation Greenhouse, a two thousand square foot structure was chosen since the drawings for it exist and heating and water supply are available from the flanking Tool House and Gardener's Cottage. This greenhouse is intended to serve the need for interior growing space and winter plant storage.

The Rose House and the Palm Houses will be ghost framed and the foundation will be outlined. In the ground plane a triple row of brick in a running bond pattern will be set into stone fines to mark the foundation. The Rose Houses and their connector encompass 4,950 square feet of space and were edged by 420 feet of foundation. The twin Palm Houses encompassed 750 square feet each and were edged by 110 feet of foundation. If the foundations for the former greenhouses remain in part below grade they could be revealed through excavation or the outline foundations could be constructed as a top course over them. If it is desired to fully construct the foundation walls they will vary in height, the foundations of the Palm Houses were only three or four brick courses high and the Rose Houses appear to be about twelve courses in the period photographs. The ghost frame ribs are to be organized on a regular pattern to take the shape of the structures and portray the volume of their space without actually reconstructing them. These ribs are proposed as tubular metal poles with a center ridge pole and the minimum number of side ribs as required for bracing and stability. The interior floor space of each greenhouse is to be paved in a stabilized gravel that is handicapped accessible while allowing through drainage.

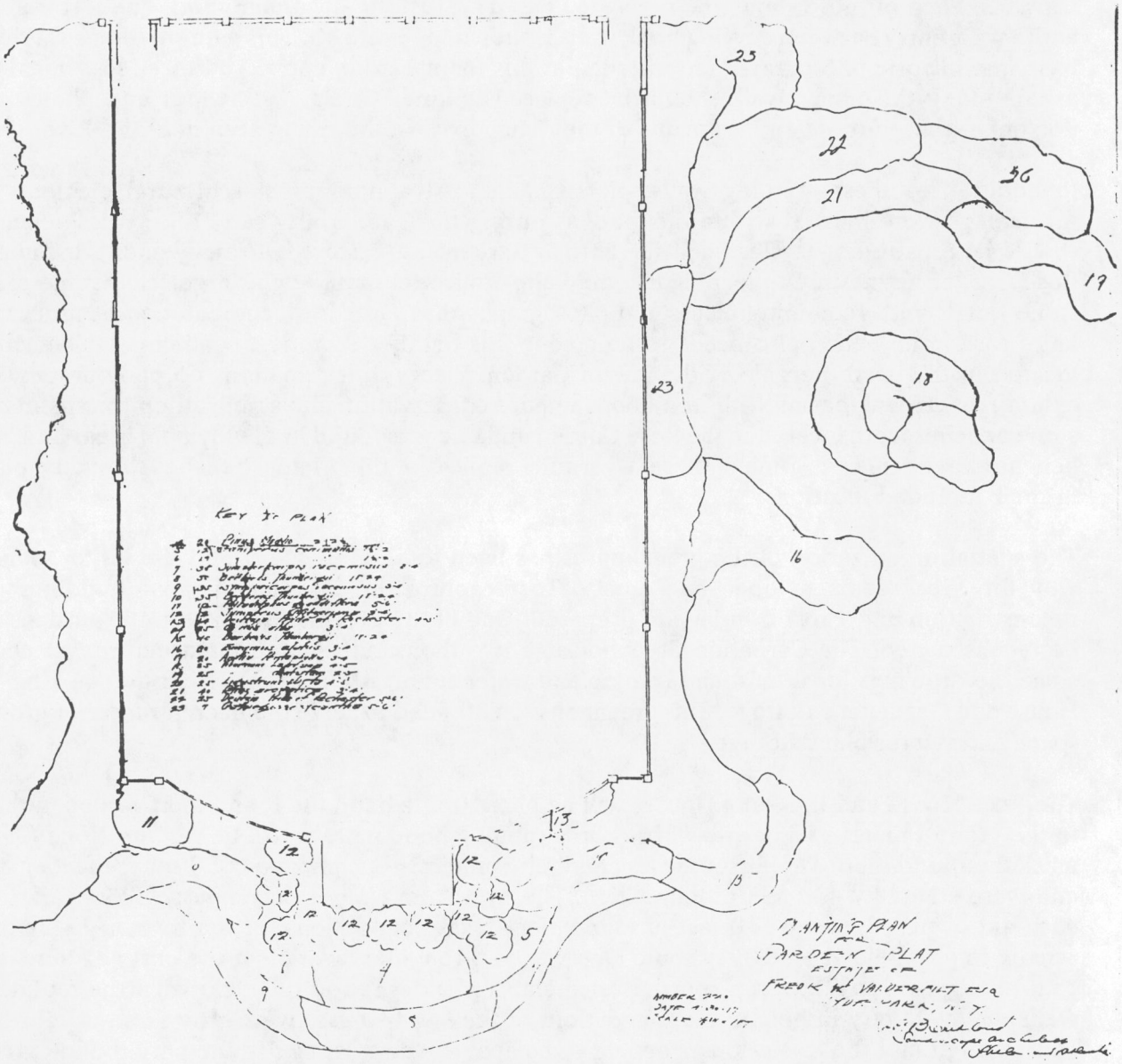


Figure 36. "Planting Plan for Garden Plat, Estate of Fred'k W. Vanderbilt Esq., Hyde Park, N.Y., April 30, 1917, number 220, scale 1/8" = 1 ft., Robert B. Cridland, Landscape Architect, Phila. and Atlanta", showing additions to the Meehan Nurseries shrub border. VMNHS, no. V-121.

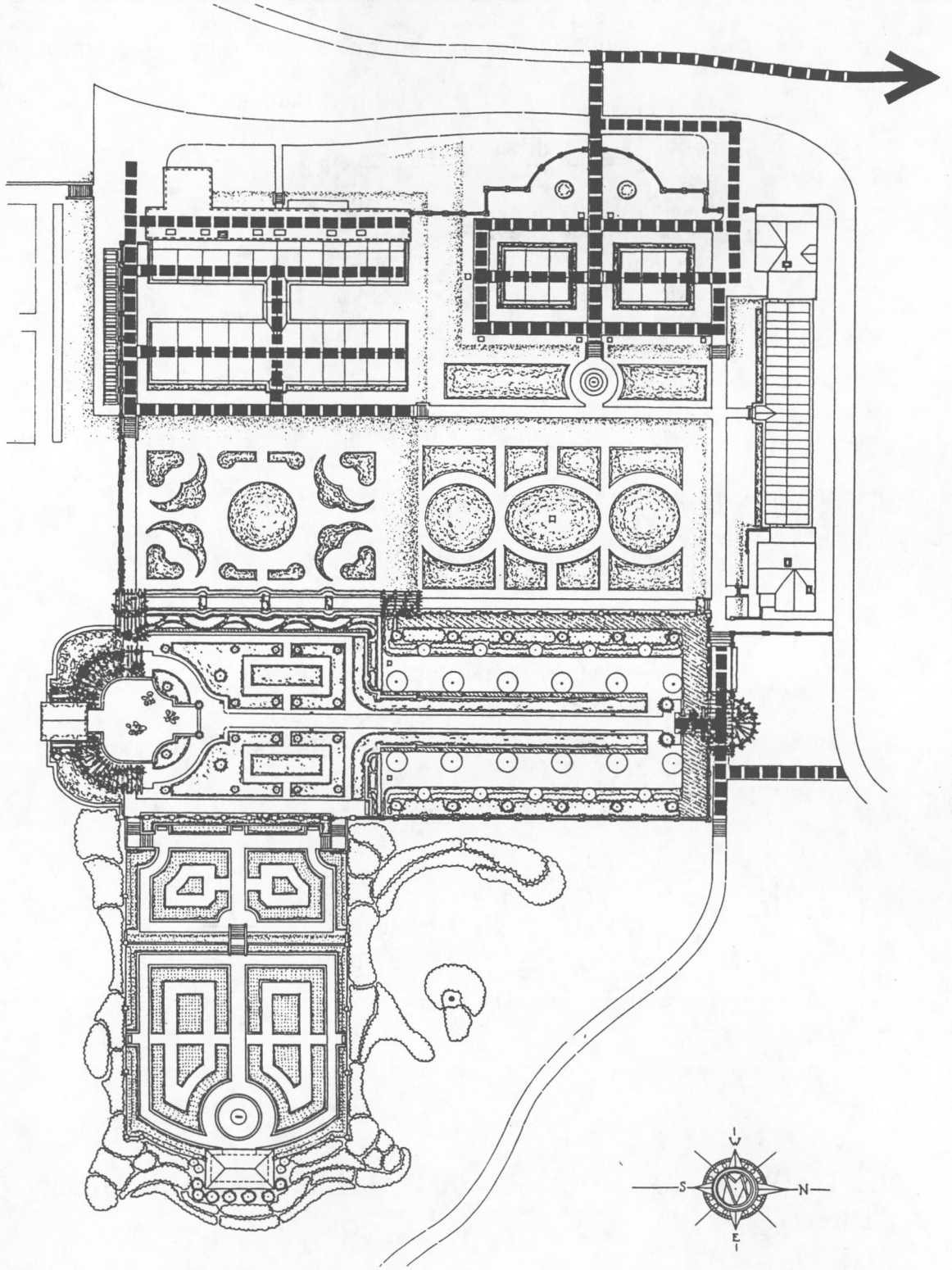
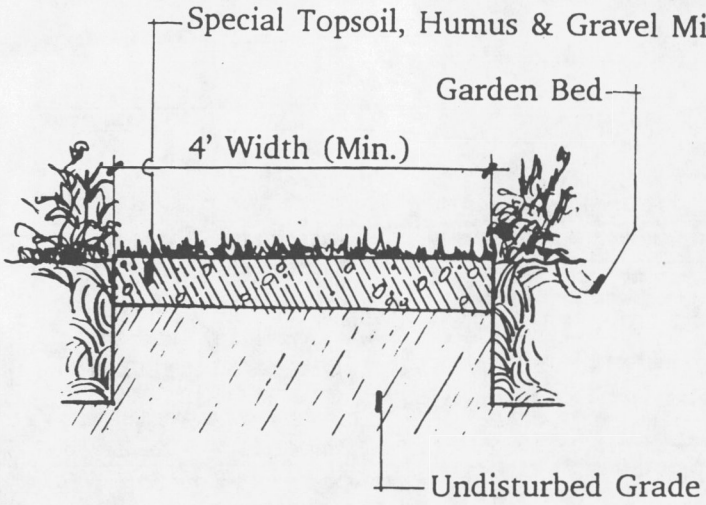
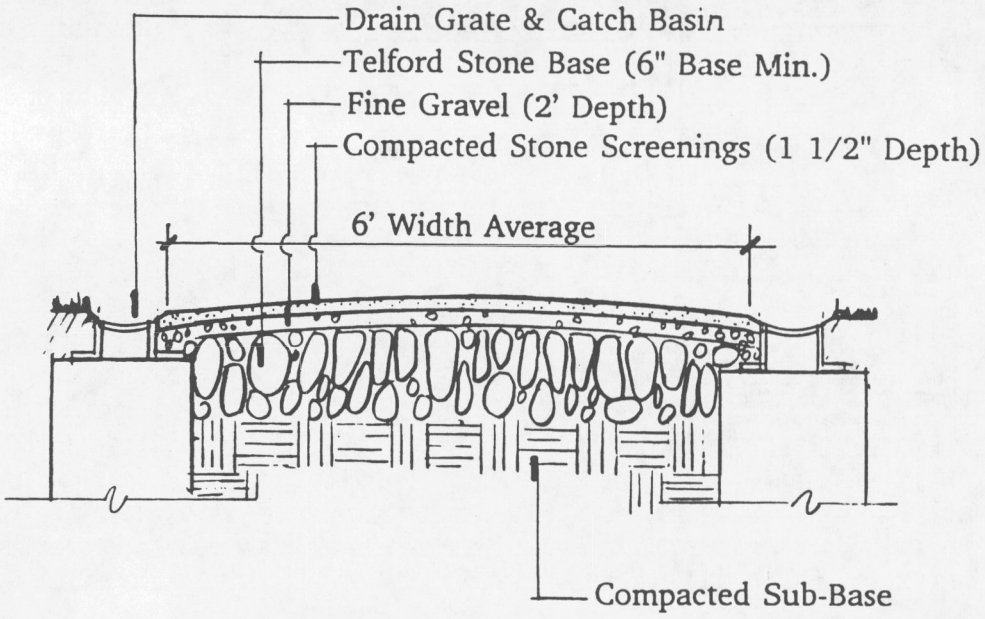


Figure 37. Recommended restoration plan of Formal Gardens shows highlighted routes that can be accessed by the handicapped for a partial experience of these terraced spaces, 1994. LANDSCAPES.



PROPOSED TURF PATH IN FORMAL GARDEN
Scale: 1/2" = 1'-0"



RESTORED COMPACTED GRAVEL PATH IN FORMAL GARDEN
Scale: 1/2" = 1'-0"

Figure 38. Details of two types of paths within the Formal Gardens, "Proposed Turf Path in Formal Garden" and "Restored Compacted Gravel Path in Formal Garden", the telford stone base of the gravel path likely remains below grade, 1994. LANDSCAPES.

Two areas of pavement around the Formal Gardens will require upgrading to replicate their historic appearance. The three hundred foot long gravel path from the northeast corner of the gardens to the Crum Elbow Creek Drive should be resurfaced with the historic stone top dressing, stabilized to reduce movement. The pavement areas around the Tool House and Carnation Greenhouse to the north and west of garden include a service drive and service/pedestrian court. The definition of these pavement surfaces requires some refinement to reflect the historic organization more closely. The area is over eight thousand square feet and may require both base course and surface stone construction or simply a topdressing with stabilized, historically accurate gravel.

Over the course of this Cultural Landscape Report the chronology of garden plantings and their condition from about 1916 to 1935 has been understood to a high level of detail. The collection of planting plans, plant lists and photographs provides the basis for an authentic replanting of the woody, evergreen, perennial and annual plantings throughout the Formal Gardens. On the Upper Terrace vines are planted on the arbor at the Gardener's Cottage. Two circular annual beds are located west of the Palm Houses. Annual beds surround the foundation of Palm Houses and frame the fountain on the next level. Beds also line the east front of the Rose Greenhouses. Replacement of these annuals each spring is a recurring cost that needs to be budgeted.

The area around the lily pool of the Italian Garden is detailed in a Cridland plan shown in Figure 31. This plan and accompanying plant list shows nearly three thousand square feet of perennials and twenty-two pyramidal evergreens that would be reinstated. The Italian Garden along Cherry Walk includes several rows of shrubs and perennials including eighty Hydrangea, twelve Arborvitae, thirty Japanese cherry 'Amagana', ten Rose of Sharon, one hundred peony and two large potted Bay trees. In addition to these plantings at the east and west edges of the garden, there are perennial and ground cover plantings along a two hundred foot rock wall to include plantings in the wall pockets as well as the beds above and below. The surrounding slopes of this garden are planted to honeysuckle.

The Cridland plans for the Rose Garden indicate the roses to be used by color, rather than specific names (Vol. 1, Figure 97). As indicated in Volume 1, Cridland wrote recommendations for rose choices in his book Practical Landscape Gardening, listed in Appendix C. These varieties could be used in the Vanderbilt garden but the level of authenticity will not be as high as the balance of the plantings since the actual plant selections and locations for this garden are not known. The Rose Garden planting, as in other areas, will include bed preparation and soil amendments as required. Climbing roses are planted around the garden perimeter on the fence requiring about one hundred and forty plants and also on the brick retaining wall where the Rose Garden adjoins the Italian Garden. Individual rose beds are planted in a grid pattern that is apparent in historic photographs. Vines, that appear to be Boston ivy, are also seen in this garden on the walls at the steps.

The areas directly adjacent to the Formal Gardens provide another layer of horticultural interest and separation from the surrounding landscape. These areas are of value for the spatial organization they create, softening the walled garden edges, as well as for their value as individual features. This irregular surrounding space at several levels is shown in Figure 30. It is spatially and experientially connected to the gardens within the walls. It includes the Cutting Garden, Redbud and Dogwood Grove, shrub border around the Rose Garden, pedestrian walk, flowering and evergreen tree plantings along the north side, shrub plantings to the west, and various individual

trees. Each of these areas is documented to a lesser degree than the areas within the garden walls, primarily from remaining evidence and some historic records with restoration based on this data.

The former Cutting Gardens were located to the south of the Rose Greenhouse complex and encompassed a level area of about six thousand square feet. The beds were accessed along a simple walk system with two large areas of plantings. The late Vanderbilt aerial photograph of the gardens (Vol. 1, Figure 116), shows this garden in the bottom right and the 1965 NPS Master Plan drawing of the gardens (Vol. 1, Figure 135), shows the portion of the Cutting Garden against the slope and cold frames. The restoration of this garden area would include the preparation of the beds, reconstruction of the about eleven hundred square feet of stabilized gravel walks and the provision of an area for garden materials such as compost, extra soil and mulch.

The restoration of these surrounding areas to the late Vanderbilt period includes several areas of shrub and tree groves which are partially extant. Figure 39 illustrates the organization of both the Redbud-Dogwood Grove and the Cutting Gardens. The Redbud and Dogwood Grove is positioned on a mound and east facing slope that is visually prominent from Crum Elbow Creek drive. The many Redbud trees and few Dogwood trees in this grove have suffered from a period of invasive growth in which they were covered with vines and crowded by volunteer trees. Over the past few years this grove has been recovered through the suppression and removal of the undesirable plants but the trees have suffered a loss of form and vigor. There are about eighty trees in place today and approximately twenty-five missing ones, indicated by remaining stumps and ground depressions. In the short term the lost trees need to be recorded by position and type to the greatest extent possible. As these trees demise they are intended to be replaced in-kind and location with a new grove to match the former one.

There are two eras of detailed planting plans for the flowering and evergreen shrub plantings around the Rose Garden. These plantings are also seen in several period photographs of the Rose Garden. The Meehan Nurseries plan was included in CLR VMNHS, Vol. 1 as Figure 93. The Cridland plan to replace and augment plantings in this shrub border is shown in Figure 36. Both plans will serve as references for replanting this feature. Only a few remnant shrubs can be found in this area today and it must be totally replanted. The initial work would include species and variety level identification of all remaining shrubs and removal of invasive vines and volunteer trees. The plans indicate a planting including sixty evergreen shrubs, seven hundred and fifteen deciduous shrubs and seven flowering trees which would be planted in accordance with the historic plans.

Another area with Dogwood trees, flowering and evergreen shrubs and pine trees is located to the north of the service drive between the Gardener's Cottage and the Tool House and to the west of the garden walls. Documentation for this area is limited to a large, fragile original Burley-Platt survey drawn in 1901 and copied in 1986 (Figure 40). This portion of the Mansion area survey shows shrub masses with some labeling by common names. Restoration of this area begins with identification of the remaining plantings. It includes replacement of the Dogwood trees in-kind. Renewal of the remaining deciduous shrubs through the removal of invasive trees from within the shrubs and reinvigoration through selective removal of branches to encourage resprouting from the ground. The 1901 survey also directs to the augmenting of the current shrub plantings, based on the shapes and labeling shown. New shrubs would be planted as appropriate. The double row of White pine trees have grown tall and lost all lower branches, which negates their purpose of creating visual separation. These should be replaced in-kind and location.

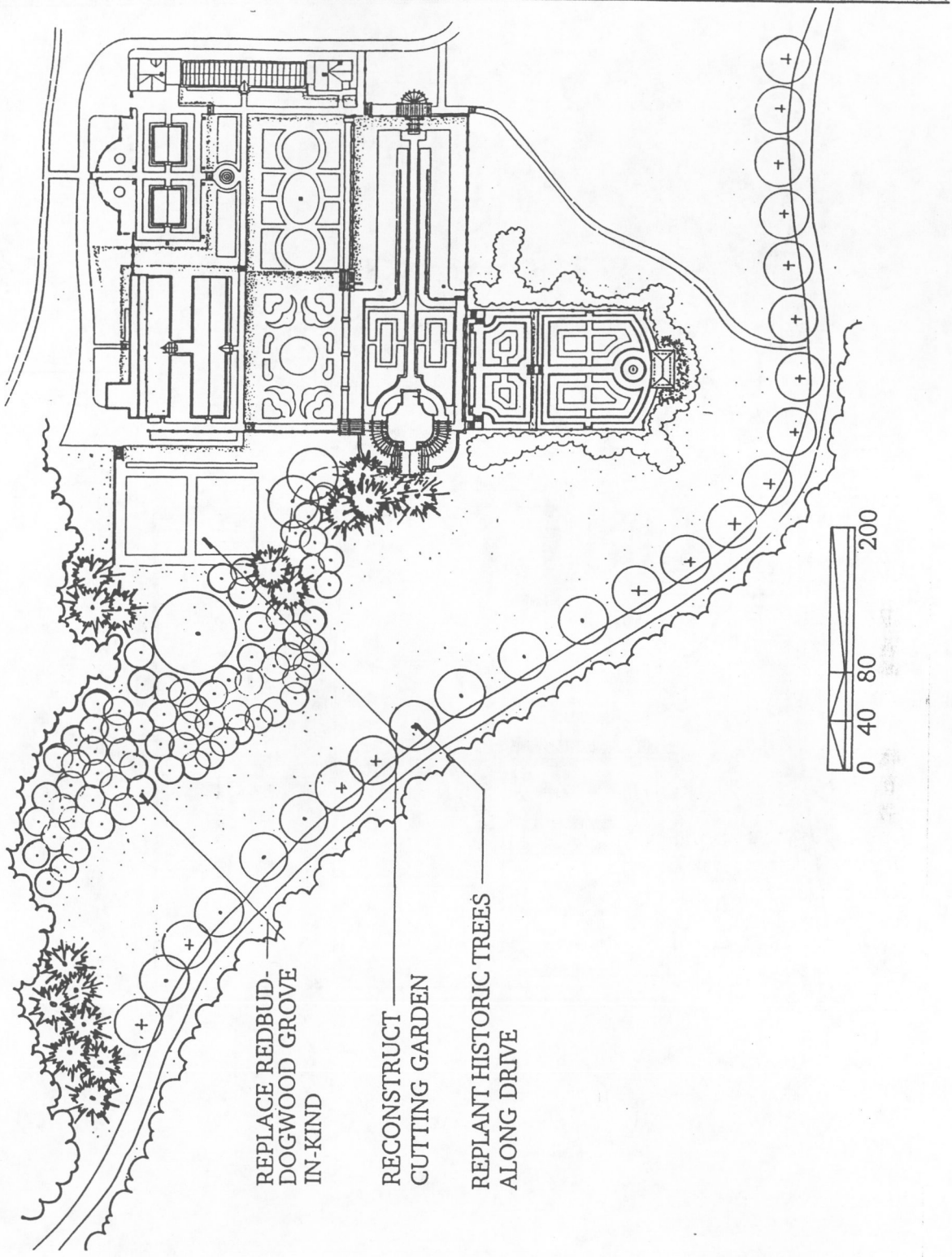


Figure 39. Recommended restoration of Flowering Tree Grove, showing mass tree planting on the mound and slope south of the Formal Gardens, to be replaced in-kind and location, 1993-1994. LANDSCAPES.

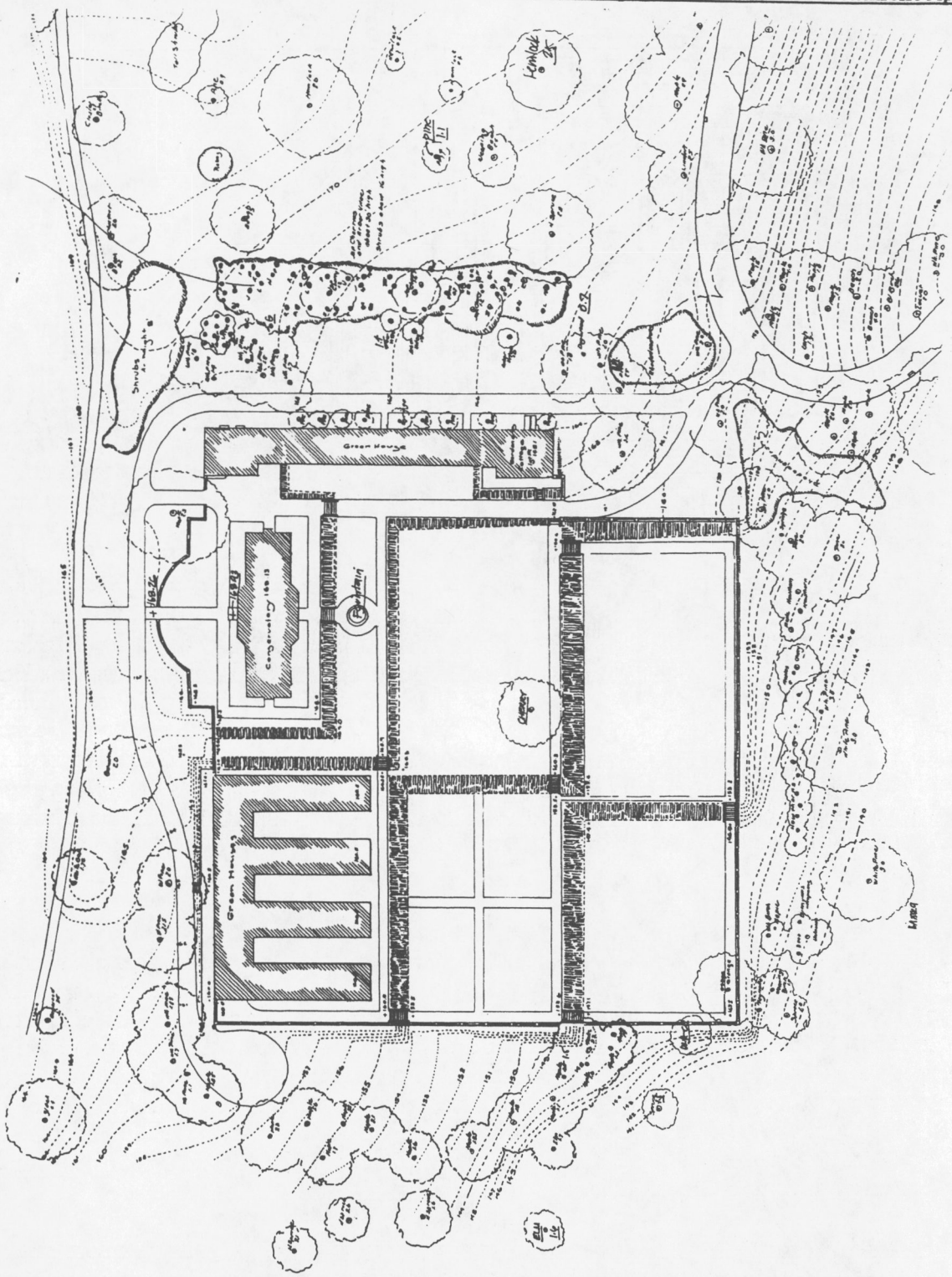


Figure 40. Portion of property survey "F.W. Vanderbilt Esq., Hyde Park, Dutchess County, New York", June 20, 1901, Scale 20'=1", Charles A. Platt Landscape Architect, Jay L. Burley, Civil Engineer, 45 Broadway, NY, redrawn from original by Carol Whipple, NPS NARO Landscape Architect, September 1986. VMNHS.

South Lawn, Great Circle, Mansion & Pavilion Vista, Treatment Unit #3

Treatment unit #3 is the core area of the estate grounds. A substantially level area directly surrounding the Mansion, it includes the areas along the ridge line providing sweeping Hudson River views, the South Lawn, an open area planted to grand specimen trees directly to the south of the Mansion, the Great Circle framed by drives and deciduous trees, and the area around the Pavilion Visitor's Center, planted to a mix of evergreen and deciduous trees. This area was shaped by the succession of owners and chosen as the site of the each principal residence. This core area of the property remains substantially intact but has experienced several significant changes that affect its historic character and features.

Documentation: Historic source materials include several historic surveys, Vanderbilt and NPS era surveys and plans. A valuable early source is the "Map of the Western Portion of the Estate" by Owen Morriss, Surveyor in 1898, included earlier as Figure 13. Reference plans prepared for the 1941 NPS Master Plan include the Mansion and Pavilion and the Tree Replacement Plan.[3] The US Geological Survey of VMNHS in 1946 is a specially prepared survey of this property at a large scale that is the best source for property topography.[4]

Vanderbilt and NPS period photographs of this area have been previously published as Figures 64, 127, 137, 146, 150, 151, 159, 160, and 198 in Volume 1. Some additional historic views are included as figures in this report. Figure 8 shows the immediate surrounds of the Mansion in the 1940s including the lost foundation plantings. An undated photograph of the Mansion, Figure 41, clearly shows a dense planting of evergreen shrubs and trees surrounding the east facade. The planting surrounding the Mansion was specified on a 1923 Cridland plan shown in Volume 1 as Figure 119.[5] A plant list in printed on this drawing, while Vanderbilt period photographs of the area document a the installed planting scheme. which is a simplification of the Cridland planting recommendations. A photographic view of the Pavilion area documents earlier conditions in this vicinity while a series of early NPS views document the tree collection, focusing on the specimen trees in unit #3.

Character-Defining Features: This treatment area is shown in Figure 42 as a detail of unit #3 taken from Exhibit 30: Proposed Treatment Units. Character-defining features of this area include the nearly level topography, which unifies the area, the extant specimen trees dating from each owner period, the spatial organization of open area and informal tree groupings, the placement and character of the Mansion and Pavilion, and the distinctive organization of the drives, entering from the south to meet the Great Circle and then proceeding north toward the Overlook. The notable tree collection is concentrated in the South Lawn, Great Circle and Pavilion areas and includes the +80" Ginkgo tree, a huge multi-trunk Weeping beech and a number of other notable trees. These plantings in informal groupings define the subzones of the South Lawn, Mansion surrounds, Pavilion surrounds and Great Circle.

Implications for Restoration, Anticipated Treatment Projects, Unit #3: As the core area of the property and the subject of a tree replacement program since the 1940s, this area remains substantially intact from the late Vanderbilt period with a few notable exceptions. These changes to circulation and plantings would be reversed to portray the character and details of the Vanderbilt era. For example, NPS era pedestrian paths and related signage and lighting are all at odds with the historic character of the Vanderbilt era pedestrian path system. The current elements would be removed and the former restored to the earlier configuration and materials.

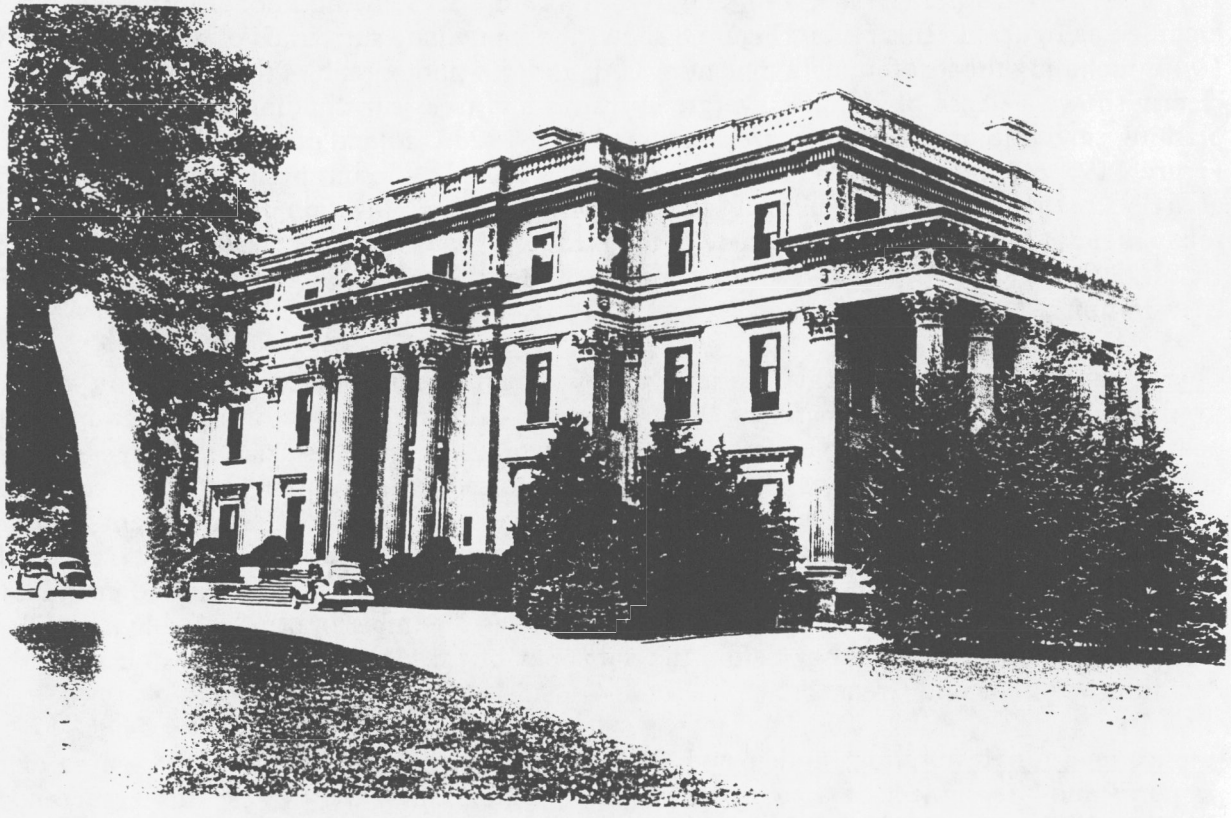


Figure 41. East facade of the Mansion showing the dense evergreen shrub and tree plantings. undated, circa 1940s. Hyde Park Historical Society.

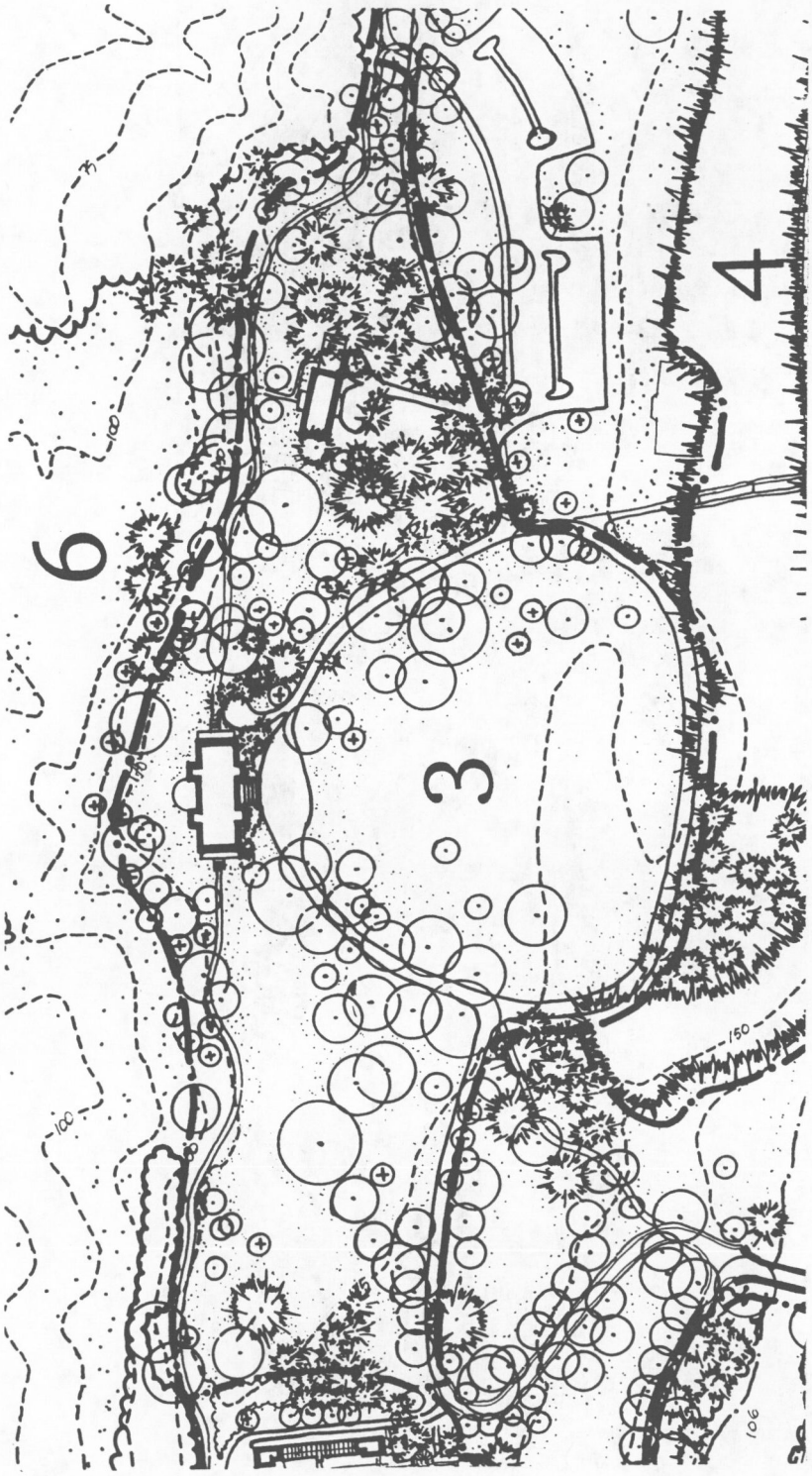


Figure 42. Recommended restoration treatment of Unit #3, the South Lawn, Great Circle, Mansion & Pavilion Vista area, a detail from Exhibit 30: Treatment Units 1993-1994. LANDSCAPES.

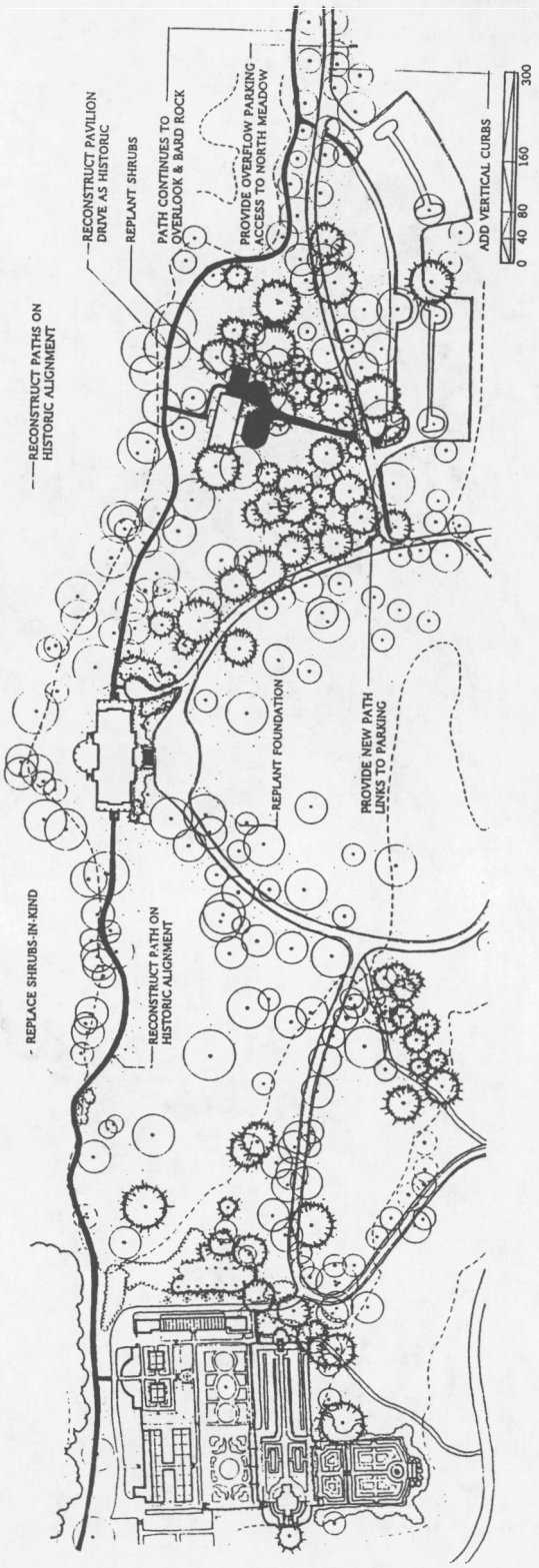
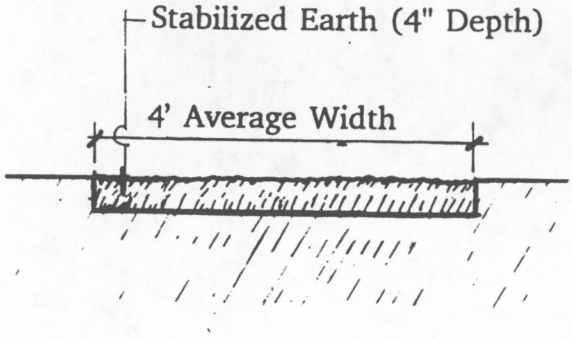
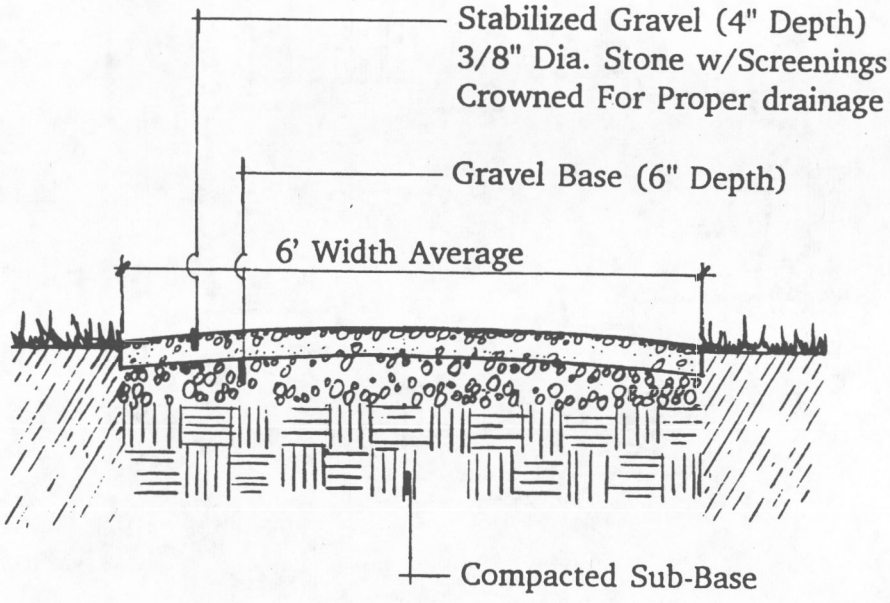


Figure 43. Recommended restoration treatment of the Mansion-Pavilion Circulation, showing restored Pavilion drive, restored historic paths and new accessible path segments, 1993-1994. LANDSCAPES.



PROPOSED WOODLAND MEADOW PATH
Scale: 1/2" = 1'-0"



PROPOSED MAIN PEDESTRIAN PATH
Scale: 1/2" =1'-0"

Figure 44. Recommended restoration details of pedestrian paths for VMNHS landscape, "Proposed Woodland Meadow Path" and "Proposed Main Pedestrian Path", 1993-1994. LANDSCAPES.

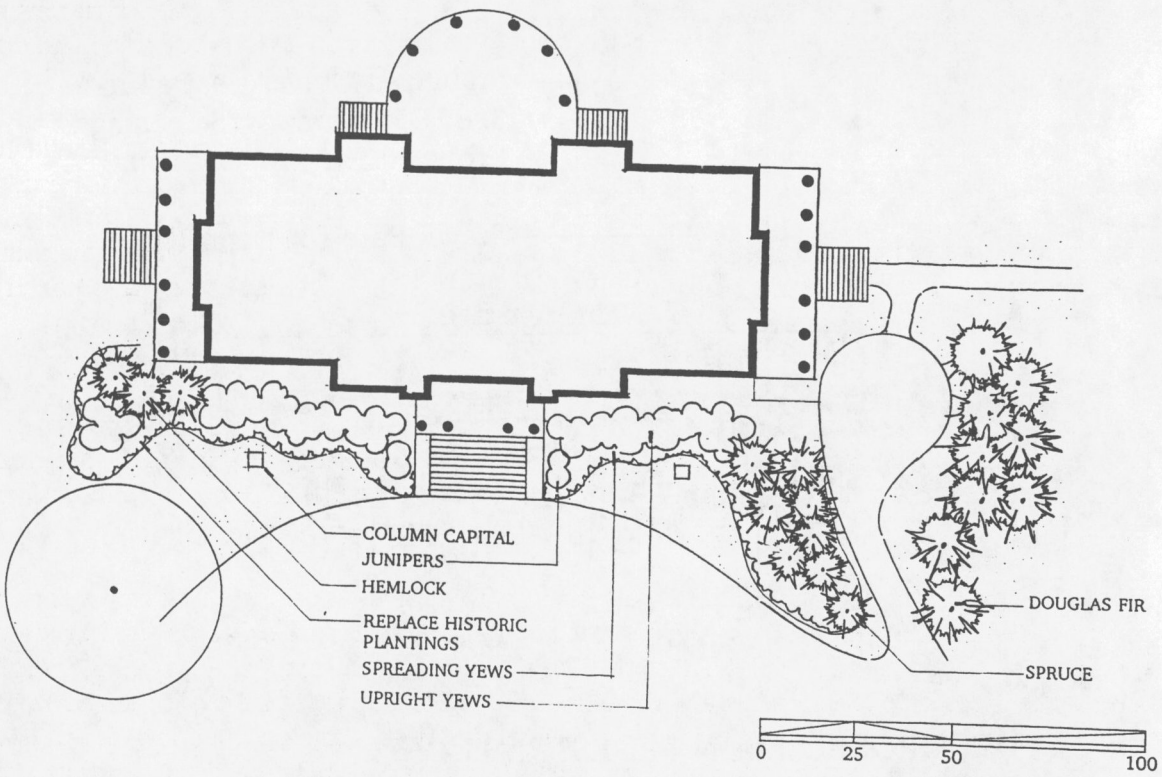


Figure 45. Recommended restoration treatment of the Mansion Foundation Planting, 1993-1994. LANDSCAPES.

The Vanderbilt era path would connect from the Pavilion to the Mansion to the Formal Gardens to the south and to the Overlook Drive to the north, as seen in Figure 43. This Vanderbilt path system linked all the primary elements in the core area along the Hudson River ridge line where expansive, scenic views were possible. About 1500 lineal feet of historic path would be restored along the original alignments at a six foot width.

This Vanderbilt period system would be increased with several, short, linking segments to provide barrier-free access along this entire route. One of these would be a connection to the Mansion service drive to gain access to the wheelchair lift. Another would be located at the northwest corner of the Great Circle at the junction of the Overlook Drive and a third would provide a pedestrian route separate from this drive linking to the visitor parking area. These additional segments are required to provide barrier free access.

Archeological investigation should be undertaken to verify the Vanderbilt paths locations and the possible presence of the original gravel and stone base. Figure 44, a cross section of the main pedestrian path, details the proposed construction of these paths. If the original path location and its base are found, this proposed cross section would be modified to replace only the stone and stone dust topdressing, using the intact historic base.

The access drive pavement at Pavilion would also be restored as shown in Figure 43. The current asphalt area of 660 square yards would be removed. The current bollards, chain fence and signs would also be removed. The curvilinear Vanderbilt pavements with a planting bed and vertical curbing would be replaced. This access is primarily pedestrian and would be barrier-free for that use. It would also serve as service and delivery access.

The fenced enclosure at the Pavilion was a former drying yard. It is proposed for reconstruction of the surrounding lattice fence running on three side for about 130 feet with two gates and a surface of stabilized gravel, about 1500 square feet. This work would recapture the spatial organization of the Vanderbilt era while providing an outdoor space to gather a group for a property tour or an educational session. About fifty lineal feet of path would be required to link this are to the path extending from the Pavilion doorway to the west.

The vicinity of the Pavilion and Mansion along the access paths will require night lighting. Lighting should be provided in an unobtrusive manner that is clearly contemporary. Perhaps tree mounted lighting could be used to illuminate the path system and the general area. The provision of an electrical supply line, about 1900 feet in length, will require trenching below grade and must be located along a route that will minimize damage to the existing trees.

Replacement of specimen trees has taken place throughout the past fifty-three years of NPS stewardship. Often, however, trees were not planted in the exact, historic location but were offset by a distance of five to thirty feet. These new tree locations create a shift in spatial organization, changing the former pattern. All the specimen trees in unit #3 would be retained and augmented replacing all missing trees along the ridge line and around the Mansion, Pavilion, South Lawn and Great Circle. Adequate care for all existing historic trees is also required. The trees that frame the Hudson River vista along the ridge line of the Mansion and Pavilion have also changed over time and these would be restored to the late Vanderbilt era appearance. There is a backlog of work on these important trees because of limited staffing. Most of the existing trees are mature and some exhibit disease or pest problems. Over a period of three to five years all these large trees should

be pruned and cabled as necessary. These treatment cycles will stabilize this important grouping of specimen trees after which a lower level of continuous care will be required. This tree work is a high priority, ranking above similar work in other areas of the VMNHS acreage. However, over time a large population of trees will require attention at a more intensive level than in the recent past. Increased staffing and equipment to deliver this attention must be considered as a constant in order to address the entire property.

The flowering shrub planting along a portion of sloping path between the Mansion and Formal Gardens requires replacement in-kind. This lozenge shaped plantings ranges from about two to ten feet in width for a distance of about fifty feet. Some of the azalea shrubs remain but are in poor condition. These remaining shrubs could be used for identification purposes to guide a replacement in-kind for this entire planting.

An element of the NPS period, the fire hydrants within the lawns, draw additional attention because they are surrounded by shaped Taxus shrubs. While the hydrants need to remain for fire safety, the shrubs should be removed because they are out of character and add to the presence of these utilitarian features. Perhaps the hydrants themselves, highly visible in the open, can be painted a more neutral color to draw less attention.

Another lost planting is the evergreen shrub and tree groupings along the Mansion foundation on the east side. These missing foundation plantings would be replaced based on historic photographs and the 1923 Cridland plan (Vol. 1, Figure 119). These photographs indicate that a simpler plantings was put in place than was proposed by Cridland. An expert review of these photographs to clarify genus, species and variety will be required prior to undertaking this project. Figure 45 details the proposed planting treatment at the Mansion. Operations would include the preparation of the planting bed in an area over two thousand square feet and the planting of about twenty evergreen trees and one hundred and twenty evergreen shrubs in this area.

In summary the South Lawn, Great Circle, Mansion & Pavilion Vista area of Treatment Unit #3 is the core area of the property that conveys the character of the estate through its features and details. While much of this area remains intact, several features, such as the Mansion foundation plantings and the pedestrian circulation system, have been lost or degraded over time and require attention in the comprehensive restoration of the property.

White Pine Buffer, Tennis Court & Subway, Treatment Unit #4

Three elements comprise this treatment unit- the White Pine Buffer, the Tennis Court site and the Subway. The White Pine Buffer planting feature is a large and important element in the character of the estate that has a significant effect on the spatial organization of the property. This triple row of evergreen trees, planted in succession, is about 2800 feet long running around the east side of the Great Circle and continuing along the Route 9 property frontage. The Vanderbilt Tennis Court is the only purely recreational facility added to the property and its location and extent remain visible in the grading of the area today. The Subway, which formerly provide access to the farm lands on the east side of Route 9, remains in part and is the only visible link to the larger acreage of the formerly self-sufficient property.

Documentation: Treatment unit #4 includes the zone directly to the east of the Great Circle and along the property frontage to encompass the area shown in Figure 46 as a detail from Exhibit 30.

Historic source materials include Vanderbilt era plans and photographs and NPS era photographs, plans and reports that document this area of the estate. As with area #3, the two most utilized plans are the Map of the Western Portion of the Estate, by Morriss and the USDOI Geological Survey topography plan from 1946. The NPS Master Plan documents are also of value in recording these features, which are shown on The Estate plan (Vol. 1, Figure 120). Additional sources used in developing the set of plans are referenced in Appendix D: Source List Plans 30-37.

Several NPS era photographs documenting these features were published in CLR VMNHS, Volume 1: Figure 136 of the Tennis Court; Figures 140, 141, 156 and 179, aerial views showing the White Pine Buffer; and part of the existing buffer shown in Figure 188. No Vanderbilt era views have been discovered to date, although two early NPS views detail the buffer showing the three levels of plantings, published in the 1941 Master Plan, which shows staggered plantings with two sizes of mature trees and a row of young trees in the foreground (Vol. 1, Figures 125 & 129). An undated view shows the Tennis Court and buffer at the back of the Great Circle (Figure 10). Figure 11, also undated, shows the Subway under construction in the early Vanderbilt years.

Character-Defining Features: Each of the three elements of this treatment unit is a character-defining feature. Most notable is the White pine buffer that provides a visually dense vegetative planting separating the Great Circle and North Lawn of the estate from the adjacent public way. It is an important vegetation feature and has a strong influence on the spatial organization and visual character of this area of the property. The Subway is a built element that provides evidence for the former linkage to the farm lands. It is a unique feature that contributes to the remaining estate because of its interpretive value even though it is no longer used. The tennis court is visible from the flattening of topography it required and as a recreation feature its adds another dimension of the Vanderbilt lifestyle to the property that is a component of its historic character. The spatial relationships among these features has altered over time with the loss of the Subway access drive and the Tennis Court fence and net, and with the growth of the White pines that opens the views that were intended to be blocked.

Implications for Restoration, Anticipated Treatment Projects, Unit #4: The original planting of White pine, three rows deep is intended for replacement. This project would be sequenced with removals and replanting of one row at a time, to begin with the row closest to Route 9. There are about 160 trees in each row. Approximate tree ages should be determined by test coring so that the rows can be replaced sequentially at the same intervals as they were historically.

The Tennis Court enclosing fence and center net are to be reconstructed to recapture its spatial organization and make it an obvious feature within the landscape readily perceived by the visitor. The fence will enclose the flat topography which is still clearly visible and is intended to remain.

The structure of the Subway should be reviewed by an expert to determine the level of deterioration, water infiltration or other changes that may require conservation attention. Stabilization or repair may be required but the degree of such efforts is unclear at this time. The former drive connecting to the Subway to the Great Circle is to be restored as a pedestrian path that will provide access to this feature for interpretative purposes, allowing both a discussion of the Subway itself and the former farm lands. The use of stabilized gravel on this former drive alignment, at a twelve foot width, is proposed to give the visual and spatial sense of the drive while creating a handicapped accessible path surface.

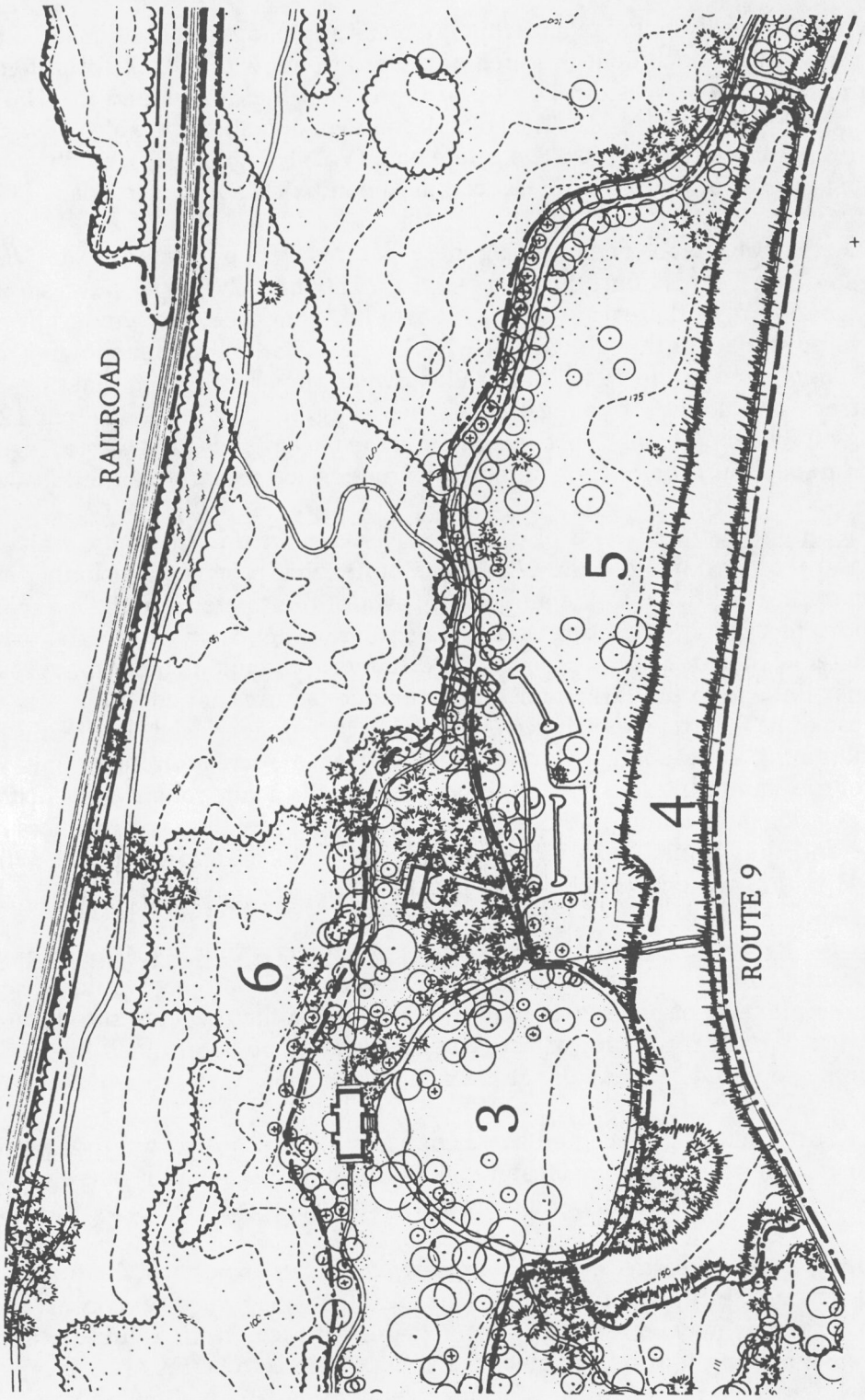


Figure 46. Recommended restoration treatment of Unit #4, the White Pine Buffer, Tennis Court & Subway, a detail from Exhibit 30: Treatment Units, 1993-1994. LANDSCAPES.

North Lawn, Overlook Drive & Path, Treatment Unit #5

This treatment unit consists of the area directly to the north of the Mansion, including the North Lawn and Overlook Drive. It is shown as unit #5 on Figure 46 as a detail from Exhibit 30. The North Lawn is another nearly level expanse that gives and overall sense of spaciousness while the Hudson River overlook provides grand river vistas.

Documentation: Historic source materials include the overall estate plans and aerial views from the Vanderbilt era and the early NPS years mentioned in several previous documentation summaries in this chapter. The 1935 (Figure 48) and 1945 (Figure 29) aerial photographs are useful, as are the ground plane photographs. One photograph of the Overlook Drive is a 1907 view by Charles Piersaull, showing a very shaded tree grouping in mown lawn along both sides of the drive with the slope dropping down to the left or west, toward the Hudson River (Vol. 1, Figure 71). A view from the early years of the NPS stewardship shows a gravel drive at the edge of the Hudson River ridgeline with a regular Sugar maple tree alleé flanking both sides and a narrow mown grass drive edge with taller grasses beyond (Vol. 1, Figure 126). Volume 1, Figure 138 also shows an area along the Overlook Drive but it is in marked contrast to these other views because it is a wide open area, possibly the same area now used for angled parking where the Vanderbilt Maple trees were removed. Documentation for the North Lawn is limited to a few photographs, including as Volume 1, Figure 125, showing the open lawn, two foreground trees and the White pines of the buffer in the background. Figure 10 shows the open North Lawn extending beyond the Tennis Court.

Character-Defining Features: The character of this treatment unit is defined primarily by topography- the relatively level flat lawn and the ridgeline as its western edge, vegetation- the solid wall of White pines on the east, the informally spaced trees within the North Lawn and the Sugar maple tree rows along the drive and the visual qualities- in the near ground and expanse of lawn and along the west ridgeline broad views of the Hudson River. Over time some trees have been lost, an angled parking area added and traffic control bollards installed. This NPS era parking lot, focused on the Hudson River view, has a negative impact on the character of this landscape.

Implications for Restoration, Anticipated Treatment Projects, Unit #5: The major change anticipated in treatment unit #5 is the removal of the angled parking lot and the development of a handicapped accessible pedestrian path linking the visitor parking lot and the Overlook. An historic path along the ridge is evident in early mapping and this alignment will be used, if it can be documented, to reconstruct the path. Archeological investigation will be needed to determine the path location and possibly its composition. The approximately 1500 foot path, constructed of stabilized gravel, will also be linked to the visitor parking and the Pavilion as a handicapped access route. At the current parking location the pavement will be removed and replaced with topsoil, with trees planted in historic locations and four benches added along the path. Proceeding to the north, the path will link to the path that drops down the slope along Bard Lane and eventually to Bard Rock. This portion of the path will have a gradient of more than 5%, due to the topography. Figure 44 shows a cross section of the proposed path construction.

Figures 49 and 50 show the existing and proposed conditions of the Overlook Drive area. The NPS era parking lot and associated furnishing at the Overlook would be removed. Curbs would be added along the edges of the drive to control automobile traffic. Although not historic for this section, it is felt that the Sugar maple trees and the turf will suffer from regular visitor parking off the drive surface and that a curb is a preferred solution to this contemporary use issue.

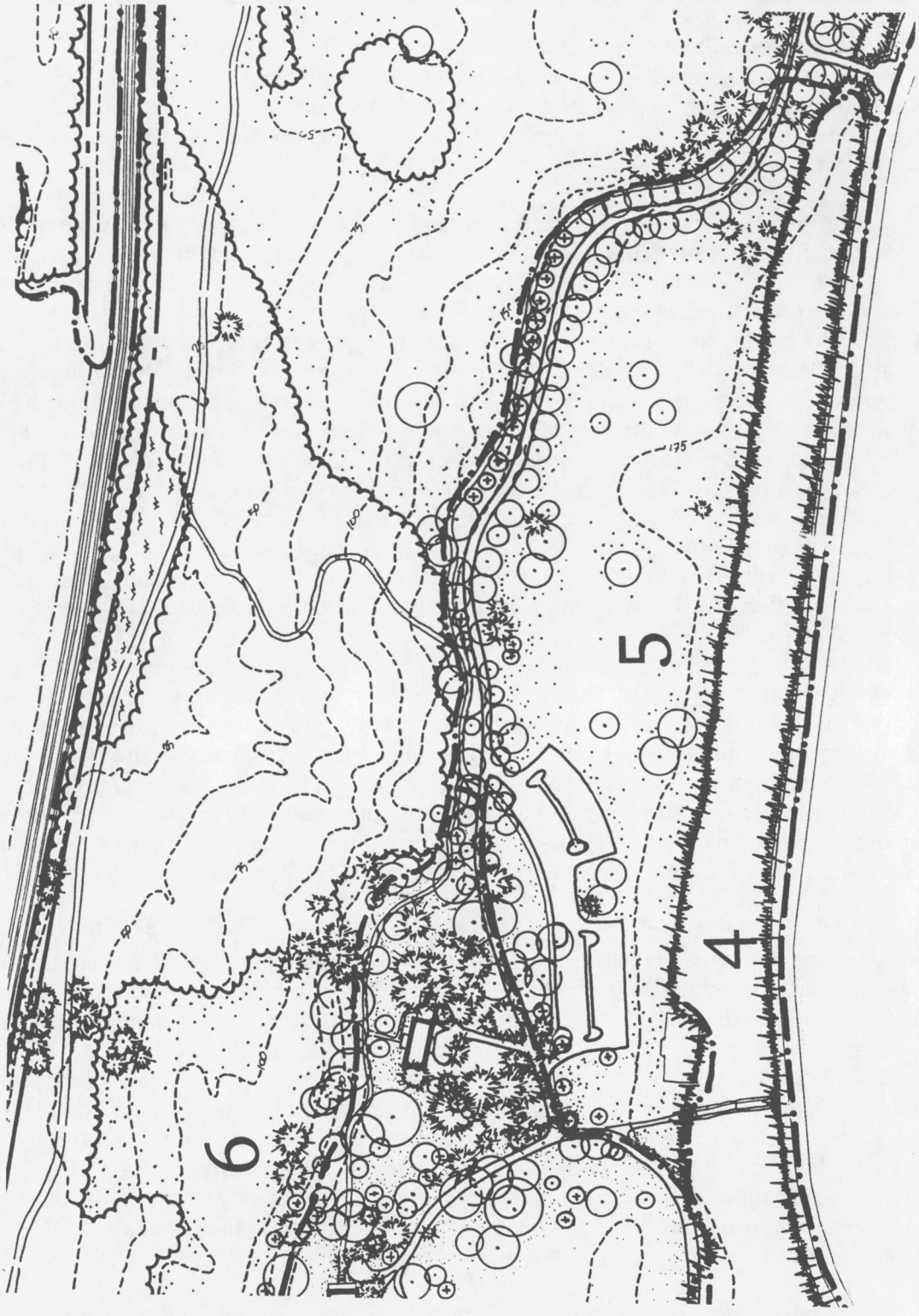


Figure 47. Recommended restoration treatment of Unit #5, the North Lawn, Overlook Drive & Path, a detail from Exhibit 30: Treatment Units 1993-1994. LANDSCAPES.

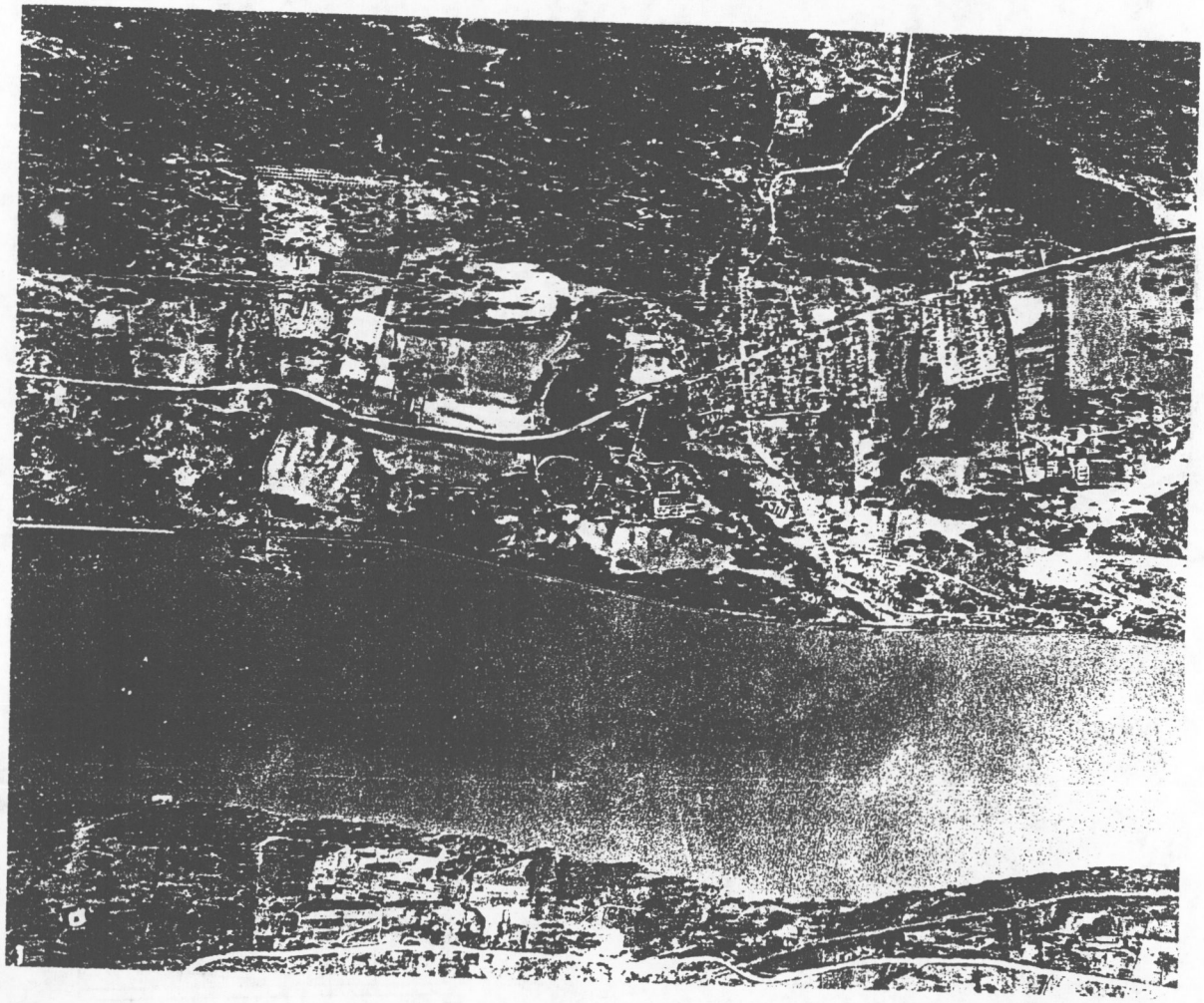


Figure 48. Aerial photograph of the Vanderbilt estate, 1935. Dutchess County Soil & Water Conservation District.

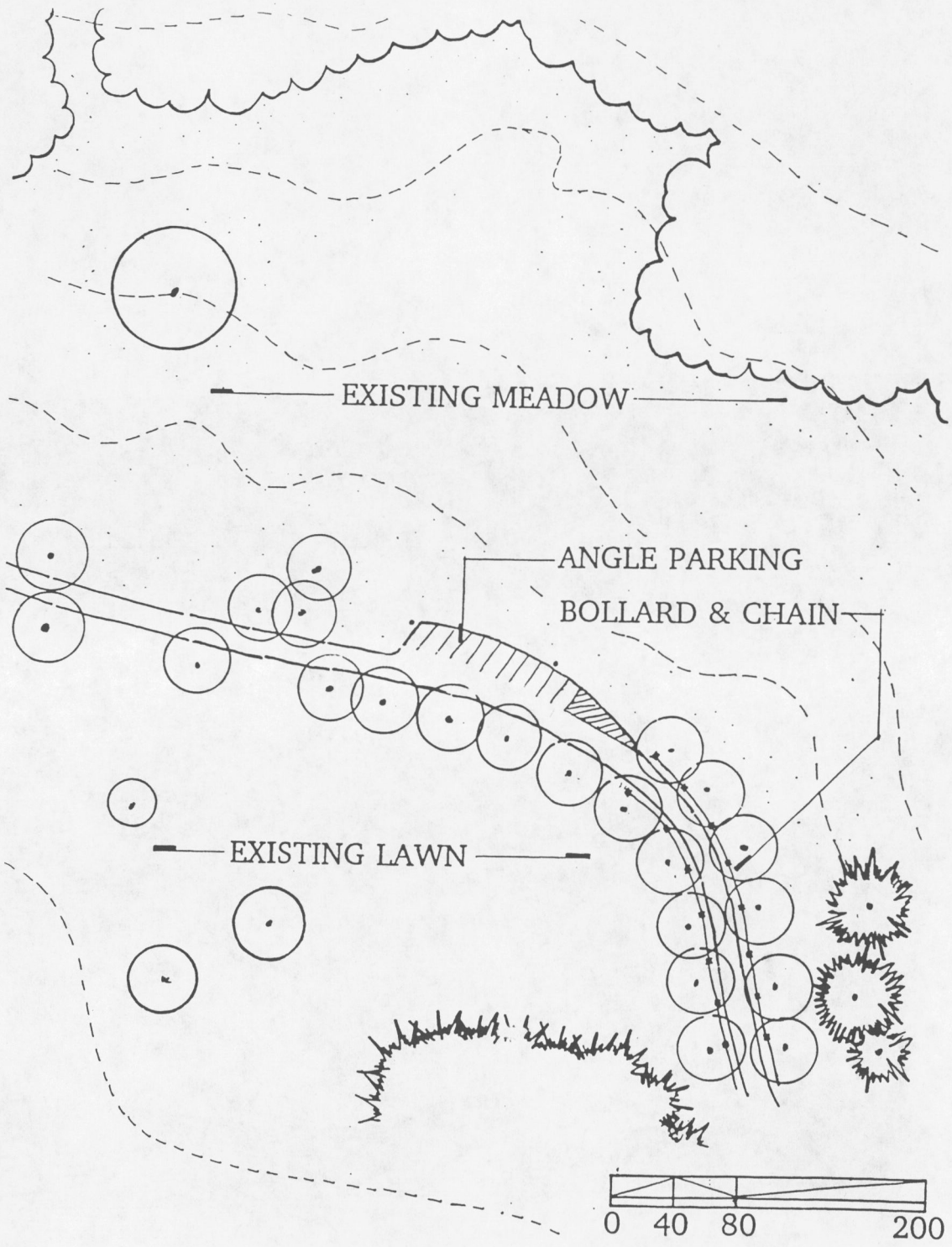


Figure 49. Existing Conditions of Overlook Drive and parking. LANDSCAPES, 1993-1994.

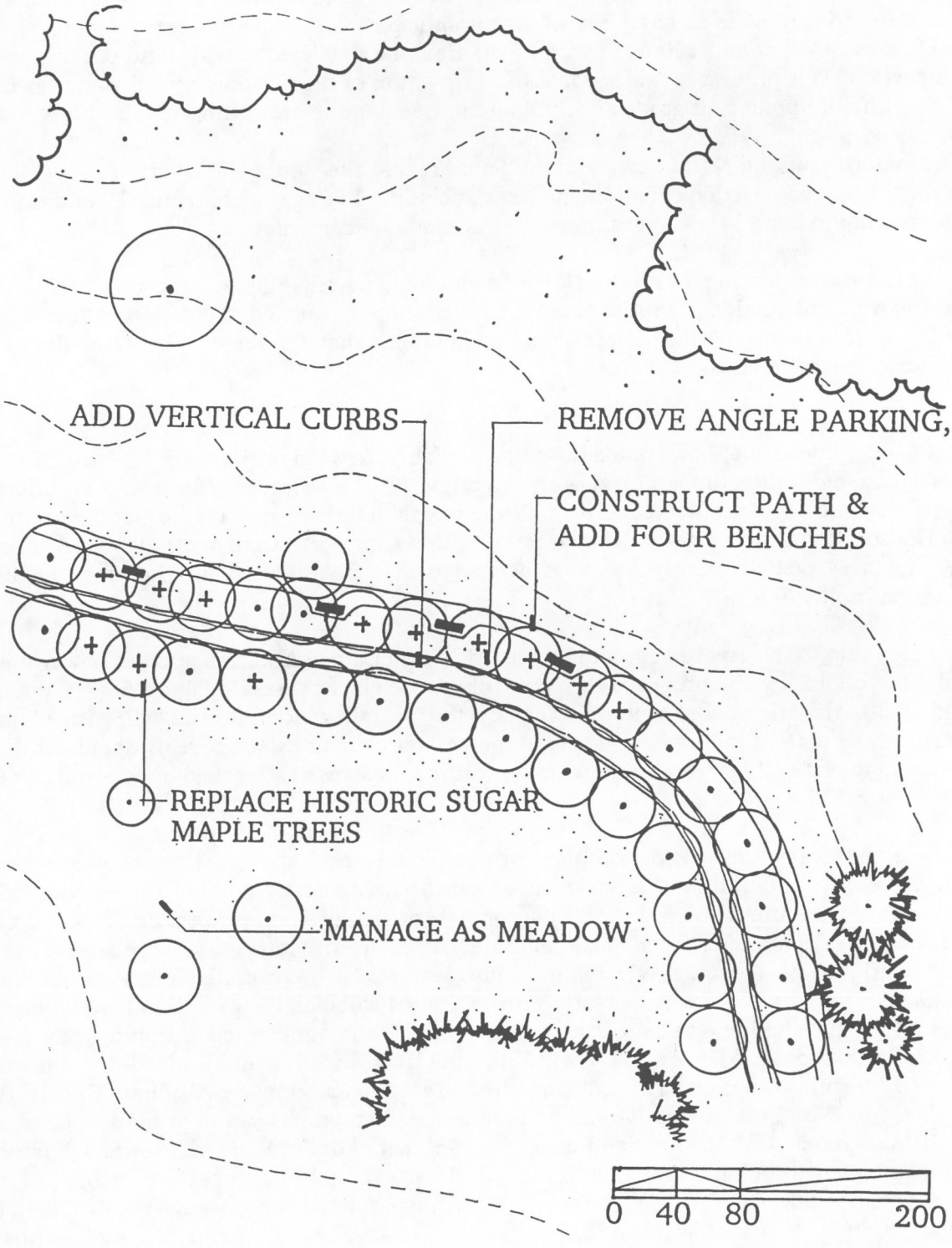


Figure 50. Recommended restoration treatment of Overlook Drive & Path, 1993-1994. LANDSCAPES.

The North Lawn is to be managed as a short meadow, requiring from four to six annual mowings. On summer weekends the parking lot is insufficient to provide for all visitors. Currently the North Meadow is used for overflow parking under dry weather conditions. An additional paved lot is not desirable and continued use of the lawn area is anticipated. Two overflow parking areas, of about 200 feet by 300 feet and 200 feet by 200 feet, are to be stabilized to withstand parking and resist compaction. This process would involve the excavation of the existing topsoil to a 6 inch depth, mixing it with humus and gravel, backfilling and seeding the area with grasses and wildflowers.

Specimen trees in the North Lawn and the Sugar maple allee along the Overlook Drive would be retained and given needed care. Missing trees, including 13 Sugar maples and 15 additional trees replaced in-kind and location to the level of available documentation.

The main visitor parking lot on the North Lawn would be rehabilitated and repaired as needed. If a major reconstruction of this lot is required it could be excavated and depressed into the grade for lower visual impact. This project would include the rehabilitation of subsurface drainage and replace of concrete curbs.

North Gate, Bard Lane, Lower Meadows & Woodlands, Treatment Unit #6

This Treatment unit is the largest one on the property. The Lower Meadows and Woodlands are one spatial and vegetation unit that extends the length of the property on the sloping ground from the Hudson River ridge line to the railroad corridor. The North Gate and Bard Lane are smaller built features that are most closely associated with this area and are therefore included in treatment unit #6.

Documentation: This treatment unit includes the North Gate, Bard Lane, and the Lower Meadows and the Woodlands. The proposed reshaping of the area is shown on in Figure 51 as a detail from Exhibit 30. Historic source materials include the overall Vanderbilt and NPS era plans cited previously. A plan of the formerly separate parcel, the Sexton Estate, reveals details of the drive system in the late 1890s.[6] Both general and specific sources are referenced in Appendix D: Source List Plans 30-37.

A limited number of historic period plans or photographs exist showing aspects of this treatment unit. An early Vanderbilt period view shows construction activity in front of the North Gate in 1906 (Vol. 1, Figure 55). A Piersaull photograph of the lower meadows, ca. 1895, shows the meadows area containing greenhouses and other ancillary structures that were later demolished by Vanderbilt (Vol. 1, Figure 44). Volume 1 also features NPS Master Plan era views of the lower meadows, taken in 1941, which clearly show a shaped woodland edge and individual deciduous trees within the sloping, grass area the north of the Mansion and an open sloping, meadow area to the south (Vol. 1, Figures 123, 124, 130, and 181). By 1956 these meadows started to be invaded by shrubby vegetation as documented in later photographs by William Stickle (Vol. 1, Figures 144 & 145). Many aerial and oblique aerial photographs of the property document the significant changes to the woodland edge. An 1935 aerial of the Vanderbilt estate shows clearly the maintained woodland edge (Figure 48). By 1947 even more changes are visible in an aerial view of the estate (Figure 29). A set of 1976 oblique aerial views show the woodland edge advancing into the meadows (Vol. 1, Figures 179, 180 & Cover). Another view from this series shows the gradually invasion of the meadows by the woodlands along the left hand side of the view showing the Formal Gardens in Figure 52.

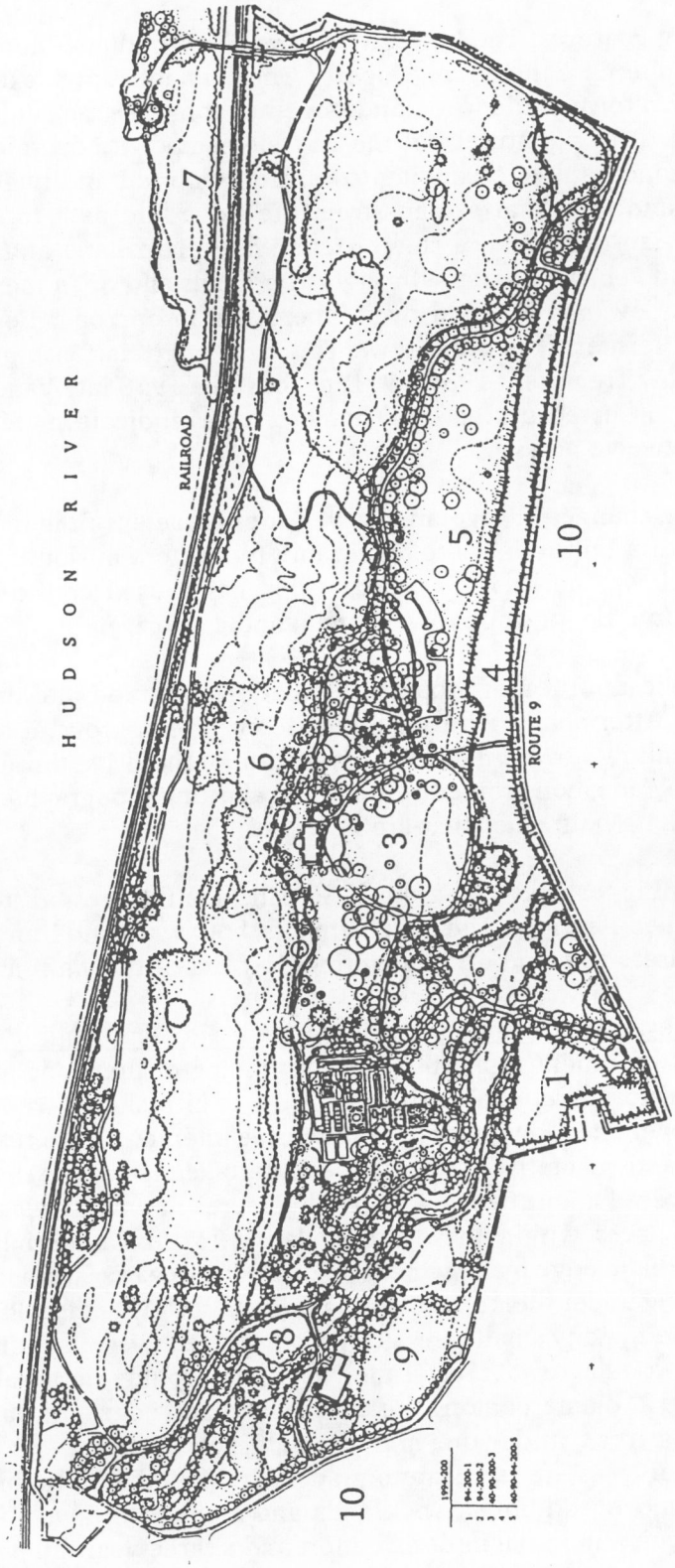


Figure 51. Recommended restoration treatment of Unit #6, North Gate, Bard Lane, Lower Meadows & Woodlands, a detail from Exhibit 30: Treatment Units 1993-1994. LANDSCAPES.

Character-Defining Features: The Lower Meadows and Woodlands comprise important aspects of the character-definition for the entire property. The open meadows, extending from the ridge line, and the variations in form of the woodlands together comprise the Hudson River foreground from this property that is its signature and the key element of its overall spatial organization. The rolling, irregular topography descending toward the railroad and river characterizes the ground plane. The woodland path that extends from the ridge line path to the lower woodland drive provides a pedestrian link along a steep route, while Bard Lane and the woodland drive itself provide service and vehicular access through woodlands and open meadows. The relationship of woodlands to meadow has changed over time, with an encroachment of woody plants into a significant area of formerly open meadow. This changing relationship is mapped on Exhibit 37: Woodlands/Meadow Treatment 1938-1991, to show the 1938 late Vanderbilt woodland edge line and organization to be recaptured. The hatched areas indicate increased areas of woodlands, comprising about twelve acres.

In addition to these changes in vegetative cover, the character of the topography has been altered in recent years with a failure in a roof drain line from the Mansion that extends into the center of the lower meadow. The break in a large pipe has caused considerable erosion of soil and movement of material down slope toward the woodland drive.

Bard Lane, the earliest portion of property circulation, is carved into the ridge line and descends toward Bard Rock. After bending through a dense evergreen grove, it follows along the northern property line continuing down hill. The cross section of the drive through the evergreen grove is depressed into the grade, constrained by the steep abutting topography. It is believed to have had drainage gutters along both sides that are now lost.[7]

The character-defining features of the North Gate include the dressed stone walls, decorative iron gates and their former plantings. The built elements, both walls and iron work, show deterioration. The planting bed areas remain but the plantings in front of the walls are almost completely lost.

Implications for Restoration, Anticipated Treatment Projects, Unit #6: A major effort of the restoration for this treatment unit will be the reshaping of the woodland and meadow areas to capture again the historic spatial organization. Years of intrusion of woody plants in the meadows have reduced the open meadows over time. Intensive intervention to return the meadows to their former size, shape and vegetative cover will be undertaken to restore the original spatial relations and river vistas. Overall about twelve and one half acres of woodlands would be removed, while the few large, old trees within these areas, dating to the Vanderbilt period, would remain. Vanderbilt era woodland edge management followed the line of mature trees, curving around their canopies and mowing under their outspreading branches. During the NPS years, when the mowing regime was simplified, many small trees grew along these edges. In addition to removing areas of recently expanded woodlands, the restoration approach would remove all invasive trees and vines and all trees under 12" diameter along the entire woodland edge, a distance of about 14,300 feet. Removals of sapling trees, under one and one-half inch diameter, can be done by hand with a weed wrench. Larger trees are to be cut to grade and painted with herbicide to limit resprouting. This project, to remove additional woodlands and reshape the woodland edges as they were historically, will require an initial intensive effort and a three-year intensive follow-up to continue suppression of invasive species. Thereafter the maintenance regime will shift to retention of the new woodland organization and woodland management to encourage regeneration of desirable species while maintaining the character of the Vanderbilt era woodland edges.

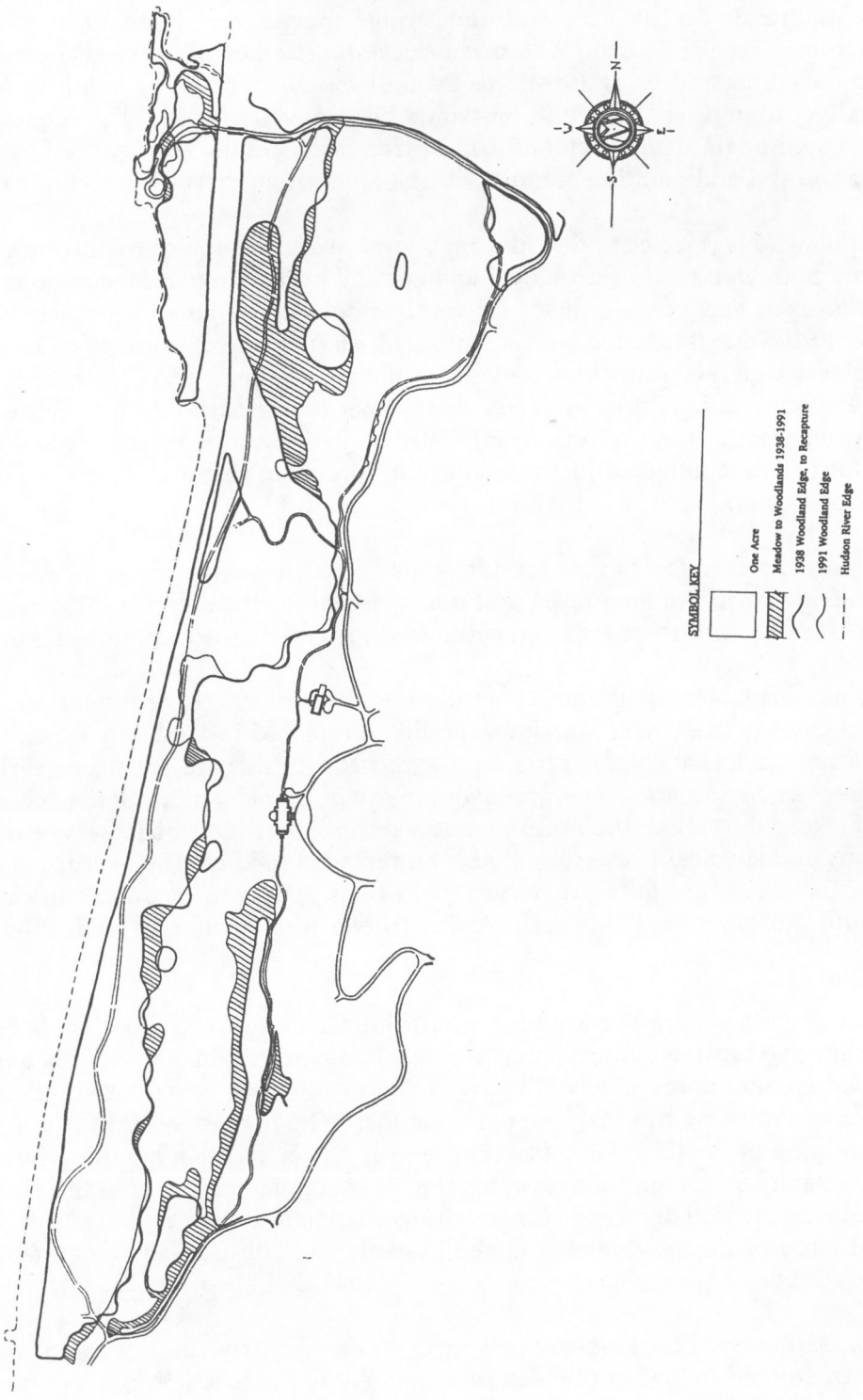


Exhibit 37: Woodlands/Meadow Treatment 1938-1991, LANDSCAPES, 1993-1994.

The interior of the remaining woodlands, an area of about forty-eight and one-half acres, also requires the suppression of invasive and undesirable species. *Acer platanoides* (Norway maple), *Ailanthus altissima* (Tree of Heaven), *Celastrus orbiculatus* (Chinese Bittersweet), and other selected plants are to be suppressed using low impact weed wrench removal by hand for trees and vines with small caliper dimensions. Larger trees would be removed to grade. The sequential process of this removal could begin with notch and frill of tree trunks in the spring, then cutting down the dead trees in the fall and painting stumps with an appropriate herbicide to limit regrowth.

In addition the woody species within the meadows are to be removed through a suppression program using both weed wrench removal and cut and herbicide paint techniques depending on the size of the trees and scrub growth. Currently a substantial length of steep slope along the Hudson River Ridge line is infested with *Ailanthus altissima* (Tree of Heaven) as seen in Figure 15, and many areas within the broader meadows contain tree seedlings and brambles. A potential long term management technique that will keep woody species out of the open meadows is controlled burning. This technique is in use on several National Park Service properties and may be useful at VMNHS if it can be conducted in a manner that minimizes risk of damage to important trees, adjacent woodlands and historic structures.

These woodland and meadow vegetation removals and invasive species suppression projects will require an NPS approval. An integrated pest management justification for the project needs to be developed to address NPS standards and submitted for review prior to undertaking this work.

Plantings would also be undertaken to replace lost elements. A relatively small number of individual lost trees in the Lower Meadows should be replaced in-kind and location to the extent that this information is available. No tree survey records for this area exist but early aerial views show these trees as deciduous or evergreen and in the proper locations. Some recent losses, such as the large hickory that fell in the north meadow during the winter of 1994, are documented by location, genus and species. These should also be replaced in-kind. The evergreen tree plantings to the east of Bard Lane would be replaced. these trees appear to be an extension of the White pine grove and buffer around this area. About fifteen trees would be added in their historic locations.

Directly below the Mansion a portion of the roof drain underground pipe has failed. This break has caused extensive erosion of the sloping ground. This failed drainage system would be repaired and the related erosion damage solved by replacing materials in wash out areas to replicate the former grades as shown on the 1946 topographic map. The process would include excavation of the pipe, rebuilding of the drain line, backfilling with gravel and shaping the ground to reinstate damaged topography for about 220 feet of eight to ten inch diameter line. At the outfall of the line a drywell would be created to provide for water percolation into the subgrade. This drywell would be an area of large stone and gravel wrapped in geotextile fabric about fifteen feet in diameter, and six feet in depth.

The path connecting the Overlook to the Lower Woodland Drive and eventually to Bard Rock would be reconstructed following the historic alignment to the extent that it can be rediscovered. Currently several bluestone treads of former woodland steps are visible within the woods along this path. Archeological investigation will be required to pinpoint the historic location. About 770 feet of path would be box cut with the forest soils litter and duff grader out in the adjacent area rather than removed from the woods.



Figure 52. Aerial view of Vanderbilt Mansion National Historic Site, photograph by Reichert, September 5, 1976. VMNHS, no. V-71592D.

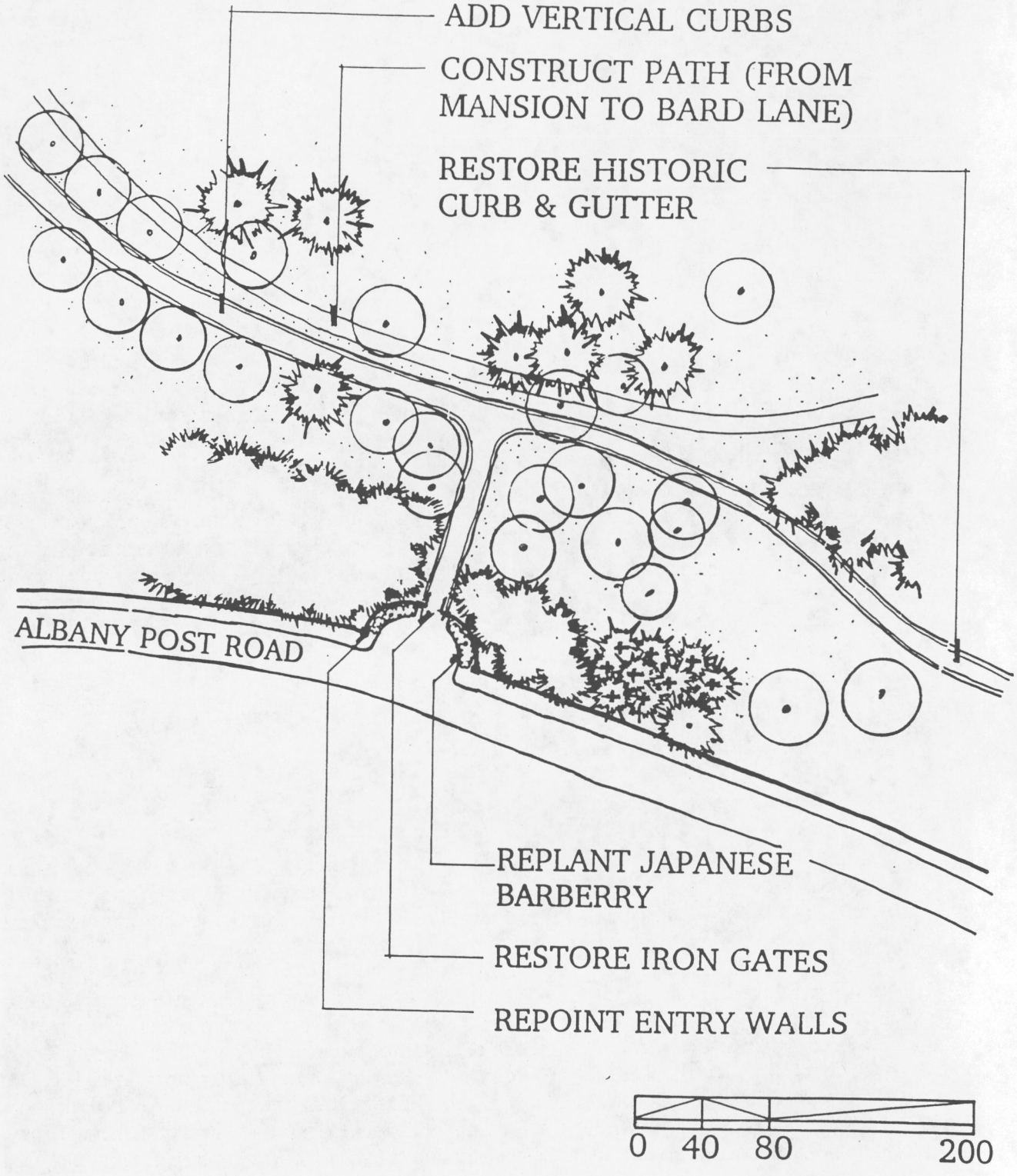


Figure 53. Recommended restoration treatment of the North Gate & Bard Lane, 1993-1994. LANDSCAPES.

Another path in this treatment unit continues along from the overlook trail on the ridgeline to drop down in front of the evergreen grove forming a route to Bard Lane. This trail does not appear on historic plans but is well used by visitors. Currently a packed earth route, it is proposed as a stabilized gravel surface. While the ridgeline path, from which this path extends, is generally below a 5% grade, this path segment is quite steep. Both of these steep paths are well over 5% grade and therefore are not handicapped accessible. Figure 44 details the cross section of the woodland meadow path as a stabilized earth or stabilized gravel construction.

The Lower Woodland Drive requires some repair or rebuilding of underdrainage culverts in eight locations. In addition to excavating and replacing failed drain pipes, some of these culverts have stone headwalls that will need to be rebuilt. This sixteen foot wide drive is about 5900 feet long. After these drainage repairs are completed, the drive surface would be graded and topdressed with two inches of gravel.

An iron fence with concrete piers runs the length of the railroad right-of-way for a distance of about 7000 feet. The piers show some deterioration while the fence is heavily rusted and in some areas partially missing or heavily damaged. About 1500 feet of iron fence may require replacement while the balance would be stripped of paint and rust and repainted.

The ninety foot, semi-circular North Gate would be restored to its historic appearance. The stone walls have a deteriorated rubble core that is likely to require reconstruction. The process would begin with the disassembly of the facing stones, rebuilding of the core, and replacement of the veneer stones and cap. The ironwork would be cleaned, repaired and painted and the gate hinges would be made functional. Green barberry shrub plantings along the east face of the walls would be replaced according to historic documentation. The process for this planting would be the same as for the Main Gate requiring the excavation and replacement of the soil to a three foot depth with a gravel drainage layer placed in the base of the pit. About forty-four *Berberis thunbergi* (Japanese Barberry) would then be planted. The recommended treatment for the North Gate is shown as a plan in Figure 53.

Bard Rock Meadow & Woodlands, Treatment Unit #7

This treatment unit includes the Bard Rock area with its rock outcrops, meadows and woodlands. Located at the northwest corner of the property, it is shown as treatment unit #7 on Figure 54, a detail from Exhibit 30. Historically significant as a deep water Hudson River landing, the Bard Rock area provides important river access and grand river views today.

Documentation: Historic source materials for this unit include the overall Vanderbilt and NPS era plans, photographs and reports cited in previous sections. Specific historic plans, prior to the Vanderbilt years, provide information about the configuration of the Hudson River shoreline and water depth that points out the importance of the Bard Rock area as a landing for river traffic. For example, the plan for the Sexton Estate reveals details of Bard Rock drives, plantings and buildings of the late 1890s, as shown in Vol. 1, Figure 43. One 1890s photograph by Charles Piersaull shows the rocky shore with a small boat suspended on iron hooks (one of which remains), next to a boat house. A dwelling is seen farther from the shore in an open lawn area while a dense growth of trees frames these structures. A second Piersaull view slightly to the north of Bard Rock shows a curving shoreline with both dense and open woodlands and a distinct opening showing a mown

turf area (Vol. 1, Figures 48 & 49). For an understanding of the current conditions at the river edge, Vol. 1, Figure 172 gives a water edge view of the rock outcrops and vegetation with the remaining boathook.

Character-Defining Features: Bard Rock is a river promontory and boat landing extending beyond the railroad line into the Hudson River. Comprised of rock outcrops, open meadows, open and dense woodlands, it is surrounded on three sides by the river. The exposed rock outcroppings and steep banks form a rugged shoreline. Broad river views are available from the shoreline providing for an expansive spatial organization for the Bard Rock area with the river width, and up and down river views defining the space. The combination of rock, meadow and woodlands is characteristic of Bard Rock. Currently a parking lot occupies the once open meadow extending west and north of the railroad bridge. The wooded areas have expanded and been somewhat reshaped over time. No structures remain in this area today, changing the spatial relationships they created.

Implications for Restoration, Anticipated Treatment Projects, Unit #7: The appearance of the Bard Rock landscape is to be restored to its historic spatial organization and vegetation and provided with vehicular and emergency access. Figure 55 shows treatment unit #7 as a detail from Exhibit 30. A major project in the Bard Rock area is the removal of the NPS era parking lot and its backfilling with topsoil to reinstate the former open meadow. Linked to this project is the provision of parking and emergency access. The drive is designed to follow the historic alignment with angled parking organized along this drive. The turnaround circle also follows the Vanderbilt era form, but required some enlargement to accommodate fire trucks seeking access to the water and tour buses that have difficulty in maneuvering in this area.

The former Boathouse would not be recreated, instead the outline of the foundation would be interpreted at ground level. It appears that this structure rested on a series of brick piers. A pattern of piers would be installed on the ground plane to provide visual clues of the placement of this former building. Since the area is predominantly rock outcrop, a complete outline with a gravel interior is not recommended for this river edge location. The remaining iron boat hook is to be conserved through rust removal and painting with rust inhibiting paint.

About 1800 feet of woodland trails in the Bard Rock area require stabilization. These trails are recommended for earth stabilization to minimize erosion. Along the river edge soils are eroding primarily from the impact of human movements along the shore areas that are not rock covered. In deteriorated areas jute mesh and river edge plantings are to be placed to stabilize erosion.

The woodland vegetation would be reshaped and managed to recapture its historic organization. As in the Lower Meadows and Woodlands, the reshaping of the woodland edges to reflect the late Vanderbilt period will require removals of younger trees and invasive vines and trees in an area a little less than one acre. Following these removals, the entire forest edge will require removal of invasive trees and vines with a manual weed wrench operation for materials under 1 and 1/2 inch and the cutting and painting with herbicide for larger trees. About 2600 feet of forest edges would be treated. Within the forest suppression of invasive and undesirable species is also required for a total area of 7.7 acres of woodlands. As in other areas of the property, this work would require a written justification and an NPS approval to proceed. Ongoing woodland management for the Bard Rock woodlands will be required after this initial intervention cycle is completed.

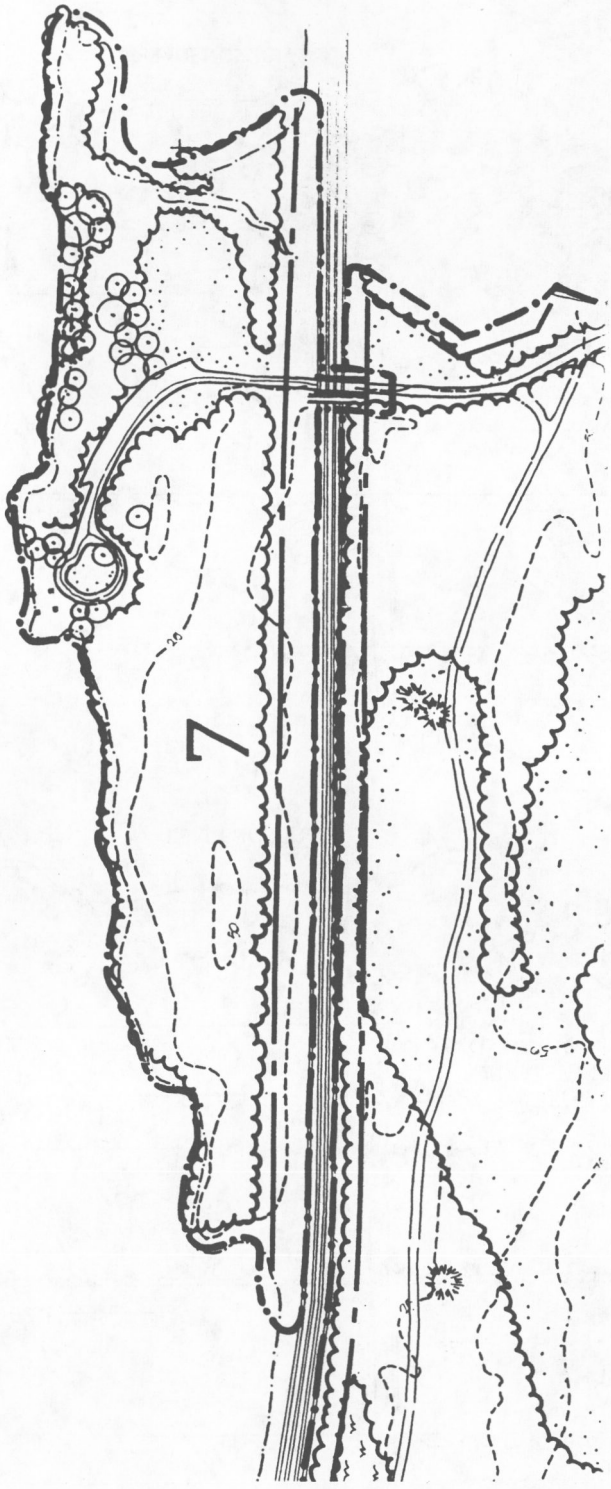


Figure 54. Recommended restoration treatment of Unit #7, Bard Rock Meadow and Woodland, a detail from Exhibit 30: Treatment Units, 1993-1992. LANDSCAPES.

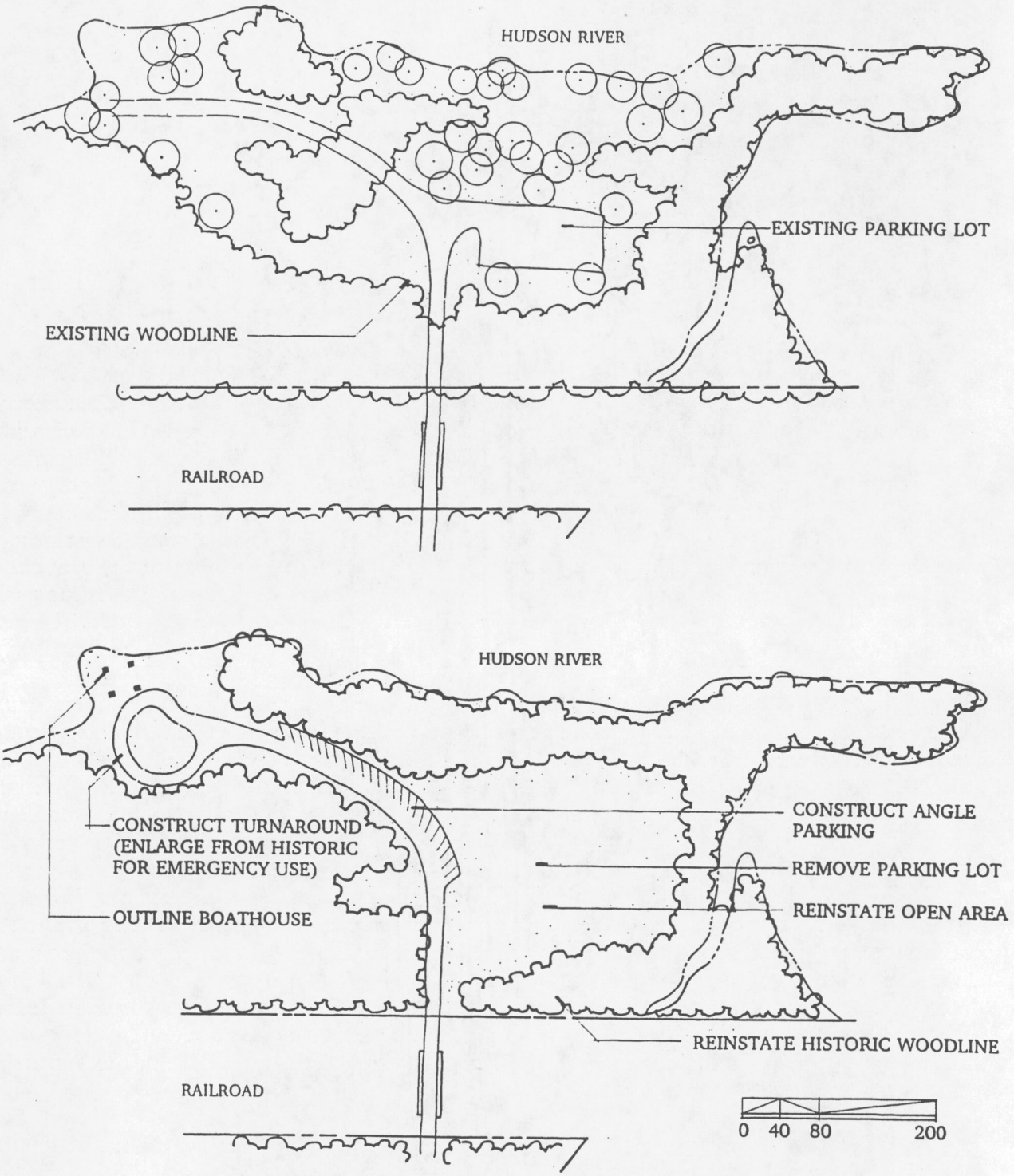


Figure 55. Above Existing Conditions Bard Rock, 1990s and below recommended treatment for Bard Rock meadow, woodlands, drive and parking, 1993-1994. LANDSCAPES.

River Gate, Landing Drive, Crum Elbow Creek & Woodlands, Treatment Unit #8

Crum Elbow Creek flows along an increasingly steeply sided ravine toward the southwest corner of the property. It is paralleled on the west by the Landing Drive that passes out of the property at the River Gate. This treatment unit follows the creek and drive corridor. It is shown in Figure #56 as unit #8 in a detail from Exhibit 30.

Documentation: Historic source materials include the Vanderbilt and NPS era overall plans and reports. A detailed survey by J.S. Burley is of use in documenting the early Vanderbilt conditions around the River Gate and is included her as Figure 57. Relevant historic photographs have been published in Volume 1. Vol. 1, Figure 186 is a panoramic view of the creek picturing the rushing waters and wooded margins of the circa 1940s condition that remain evident today. An early Charles Piersaull photograph, circa 1899 shows the River Gate and the lodge shortly after construction with two nearby trees and an open woodland to the west (Vol. 1, Figure 68). A later photograph of the River Gate, from 1956, shows ivy vines on the walls and gate piers, some shrub foliage on the West Market Street side of the gate shows above the wall and small rhododendrons are placed near the Gate Lodge (Vol. 1, Figure 191). Vol. 1 Figure 192 shows the 1992 conditions at the River gate with increased plantings around the Gate Lodge and deteriorated masonry walls. The woodlands surrounding Crum Elbow Creek can be glimpsed in an undated NPS era view from Landing Drive (Vol. 1, Figure 149). A 1950s aerial by Wright Flying Service shows a distant view of the southwest corner of the property (Vol. 1, Figure 141) giving a sense of the amount of vegetation and shape of the corridor, while Figure 48, a 1935 aerial photograph, clearly shows the relationship of the woodlands framing Crum Elbow Creek bounded by the Landing Drive. This view also gives a sense of the relationship of the Crum Elbow Creek corridor to the broader property.

Character-Defining Features: The character-defining features of the River Gate, Landing Drive, Crum Elbow Creek and related woodlands begin with the creek itself, a rushing woodland stream bounding over a rocky bed and two dams, traversed by a grand, rustic, cobblestone bridge. The creek banks are vegetated with a mixed woodland with deciduous and evergreen trees, with broadleaved evergreen shrubs and herbaceous plants as an understory. These creek side woodlands appear very much as they did in the Vanderbilt period with some losses of vegetation and small areas where erosion is evident. The sinuous course of Landing Drive follows the original alignment established by Hosack and Parmentier, while its surface is repaved with asphalt. This drive provides a scenic landscape sequence with alternating views over into the creek valley to the east and the grassy slopes or woodlands to the west. The dressed stone walls, decorative iron gates, Gate Lodge and their former plantings create a formal character at the entry. Continuing deterioration threatens these walls and gates and their shrub and vine plantings have been lost. The Gate Lodge was formerly bare of plantings, sitting in a woodland clearing. Today it is surrounded by additional residential scale plantings altering the character from the Vanderbilt years considerably.

Implications for Restoration, Anticipated Treatment Projects, Unit #8: The woodland vegetation along Crum Elbow Creek would be managed to maintain its historic appearance. While this forest is relatively intact, as in other areas invasive species are present. The removal of all undesirable trees and invasive vines along the 8,200 foot creek edge and west forest edge. A modest level of intervention is required due to the intact nature of this forest. The same approach as indicated previously, with hand removals using a weed wrench for small diameter plants and cut and paint for larger plants is to be followed.

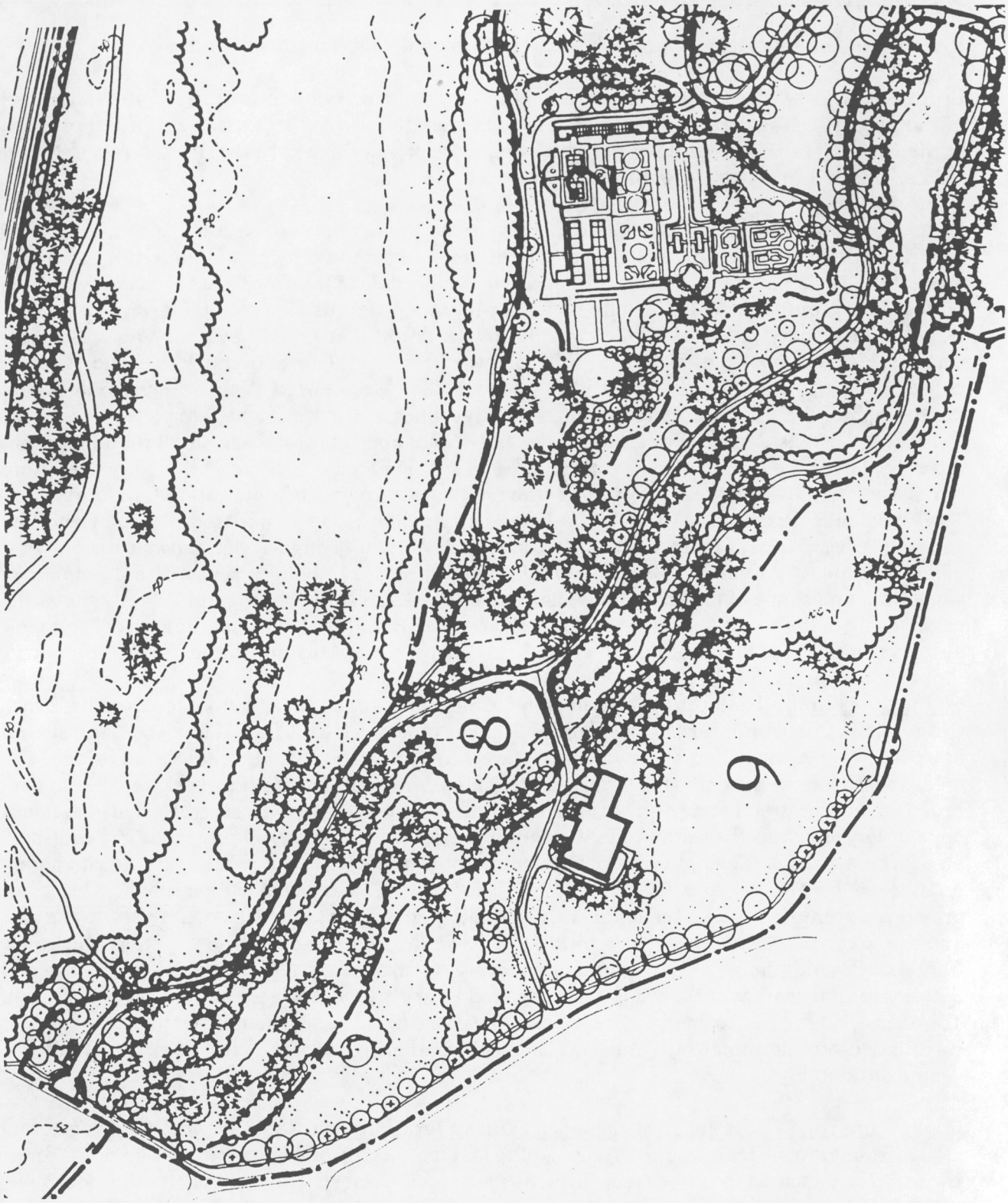


Figure 56. Recommended restoration treatment of Unit #8, River Gate, Crum Elbow Creek and Woodlands, a detail from Exhibit 30: Treatment Units 1993-1994. LANDSCAPES.

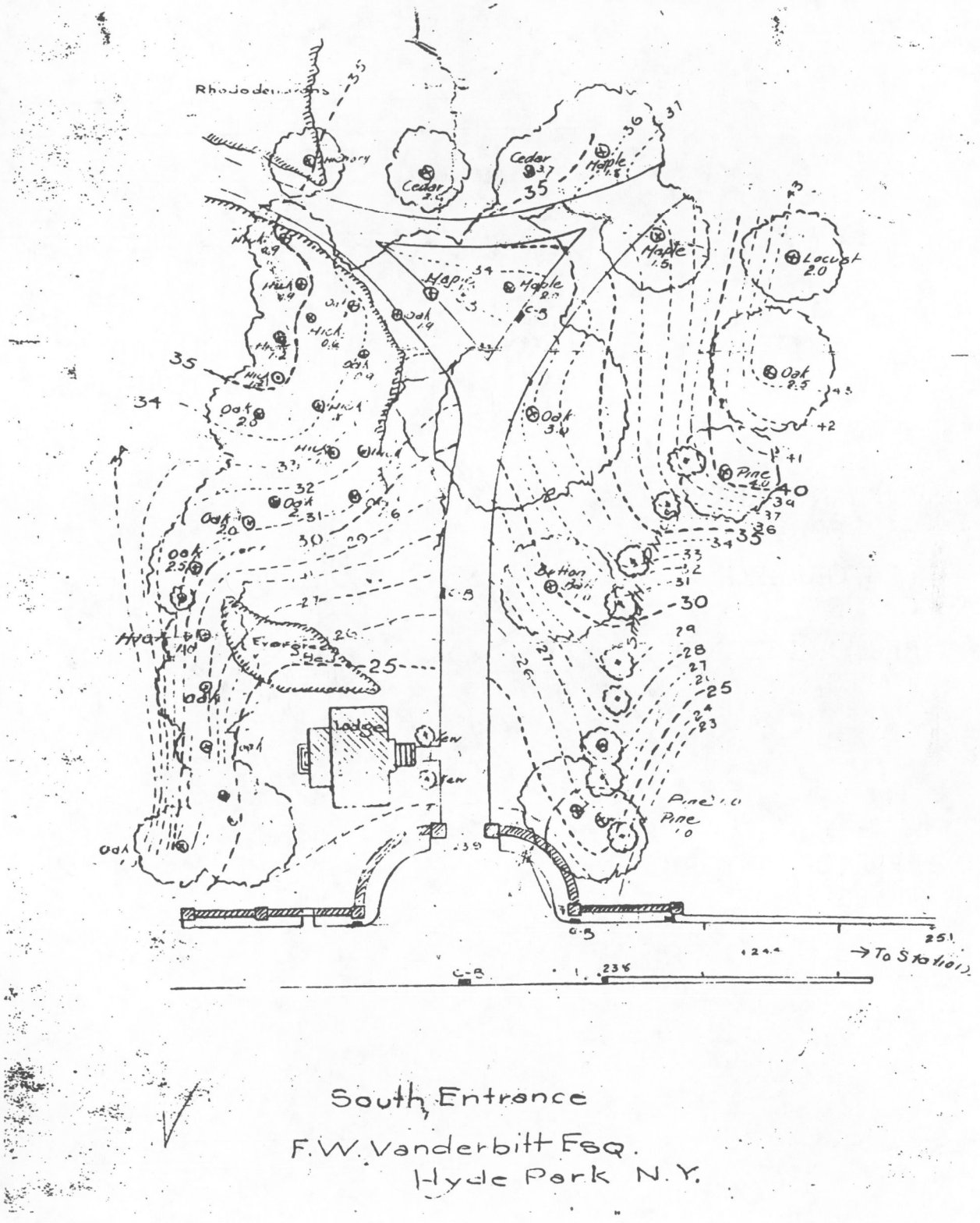


Figure 57. South Entrance, F.W. Vanderbilt Esq., Hyde Park, N.Y., circa 1898-99, scale 40'=1" by J.S. Burley, surveyor. VMNHS.

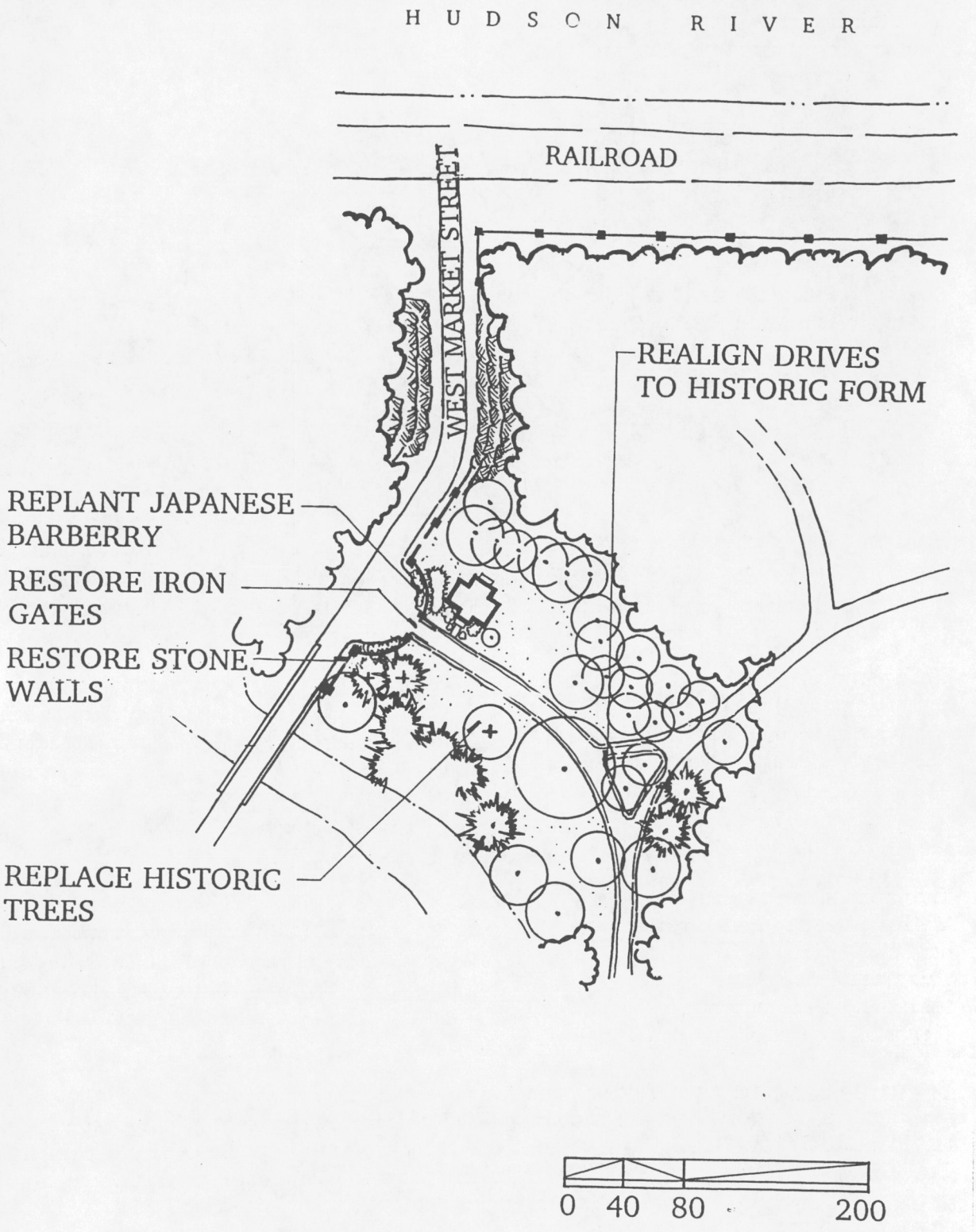


Figure 58. Recommended restoration treatment for the River Gate, 1993-1994. LANDSCAPES.

Continual woodland management of the approximately nine acres of woodlands will be required after this invasive plant suppression effort has been completed. Skilled staff and appropriate tools and equipment are required to carry out an effective woodland management effort here and in the balance of the woodlands on the VMNHS property.

Trees should be replaced according to the available historic surveys and views. The survey of the "South Entrance" by J.S. Burley, seen in Figure 57, is one source that can be combined with area photographs. In this area, bounded by the River Gate, Gatehouse and drive triangle, over twenty trees have been lost and should be replaced. In addition, the 1935 aerial photograph can provide massing and some individual tree placement information without genus or species detail.

An effort to stabilize the Crum Elbow Creek edges is required where degradation from human use or drainage patterns are creating erosion. A bioengineering approach, using stabilization geotextiles, such as jute mesh, and woodland understory plant materials should be applied to the few problem areas along the creek.

Two dams are located along this portion of Crum Elbow Creek and both are in need of repair. A thorough investigation of these dams is required to determine the extent of the repair required to bring them back to full function.

The River Gate stone work and walls would be reconstructed to match the historic condition as seen in Figure 58. The approximately 90 feet of curve walls are seriously deteriorated. These unstable walls will require dismantling and complete rebuilding to replace the rubble core and reset the stone faces. The rusted iron gates would also be repaired and the hinges made functional.

The arched Cobblestone Bridge should be thoroughly inspected to determine the need for and extent of repairs required. The structure looks sound and some repointing appears to be needed. A modest level of stabilization work is likely required. An investigation may uncover additional stabilization needs and these should be undertaken as necessary.

Coach House Meadows, Treatment Unit #9

The Coach House Meadows encompass the southern most section of the property bounded by West Market Street and a stone boundary wall and the Crum Elbow Creek woodlands. The large, beautifully detailed Coach House, currently in use as a maintenance center, is located in this area. This treatment unit consists of the area directly surrounding the Coach House includes open meadows and areas of woodlands to the southwest and east of the Coach House. It is shown in Figure 59 as treatment unit #9, a detail from Exhibit 30.

Documentation: Historic source materials include the general Vanderbilt and NPS era plans, photographs and reports indicated previously. These sources are referenced in Appendix D: Source List Plans 30-37. The 1935 and 1947 aerial views are useful records. An early photograph of the Coach House shows many small shrub plantings as well as the two, small, spruce trees that persisted for decades (Figure 18). An undated photograph shown in Volume 1 (Vol. 1, Figure 189) shows closely cropped lawn surrounding the building, with the two large spruce trees flanking the center door of the building, close cropped lawn surrounds the building and runs for a width along the drive, while rougher grass extends into the meadow areas beyond.

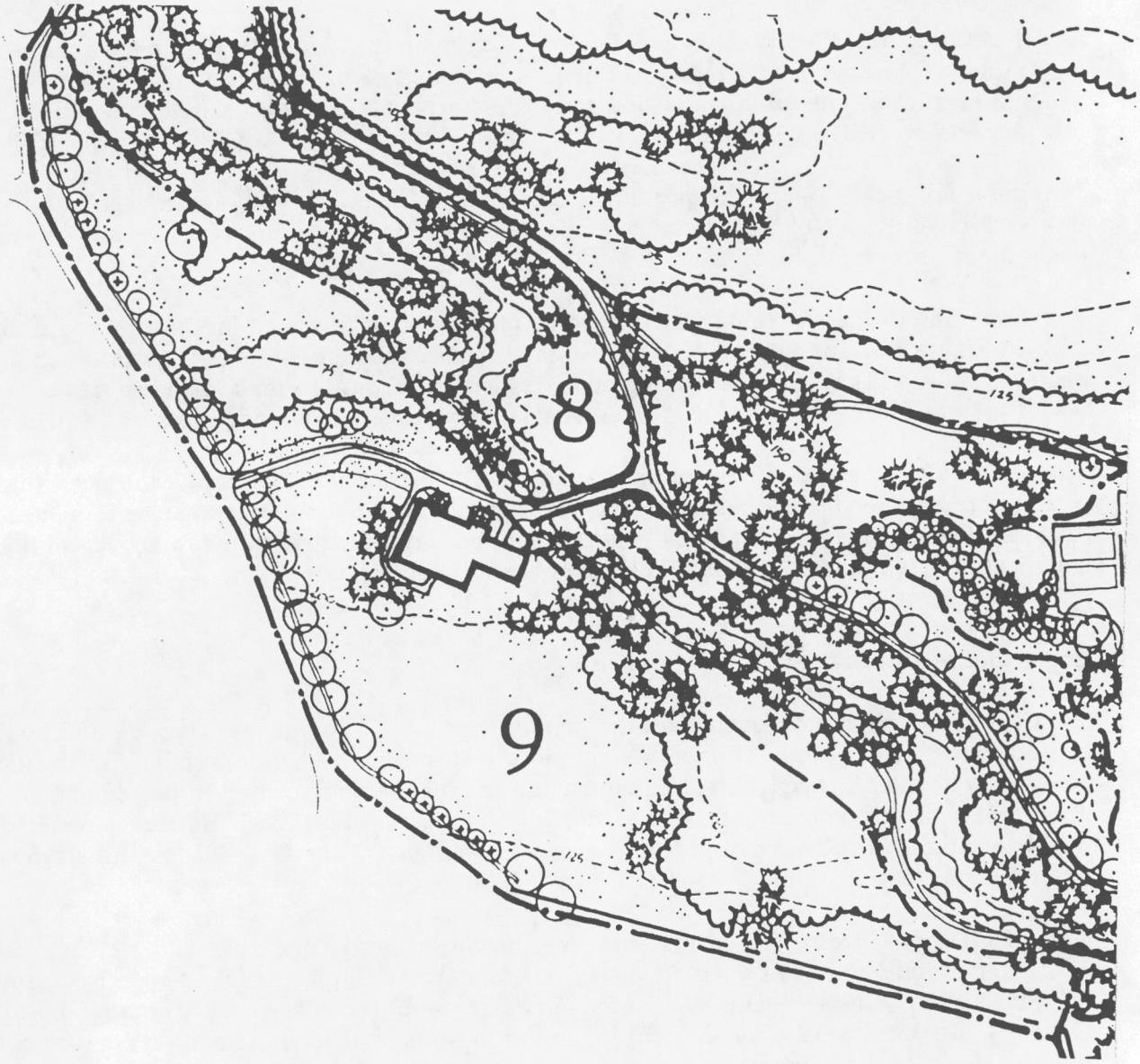


Figure 59. Recommended restoration treatment of Unit #9, the Coach House Meadows, a detail from Exhibit 30: Treatment Units 1993-1994. LANDSCAPES.

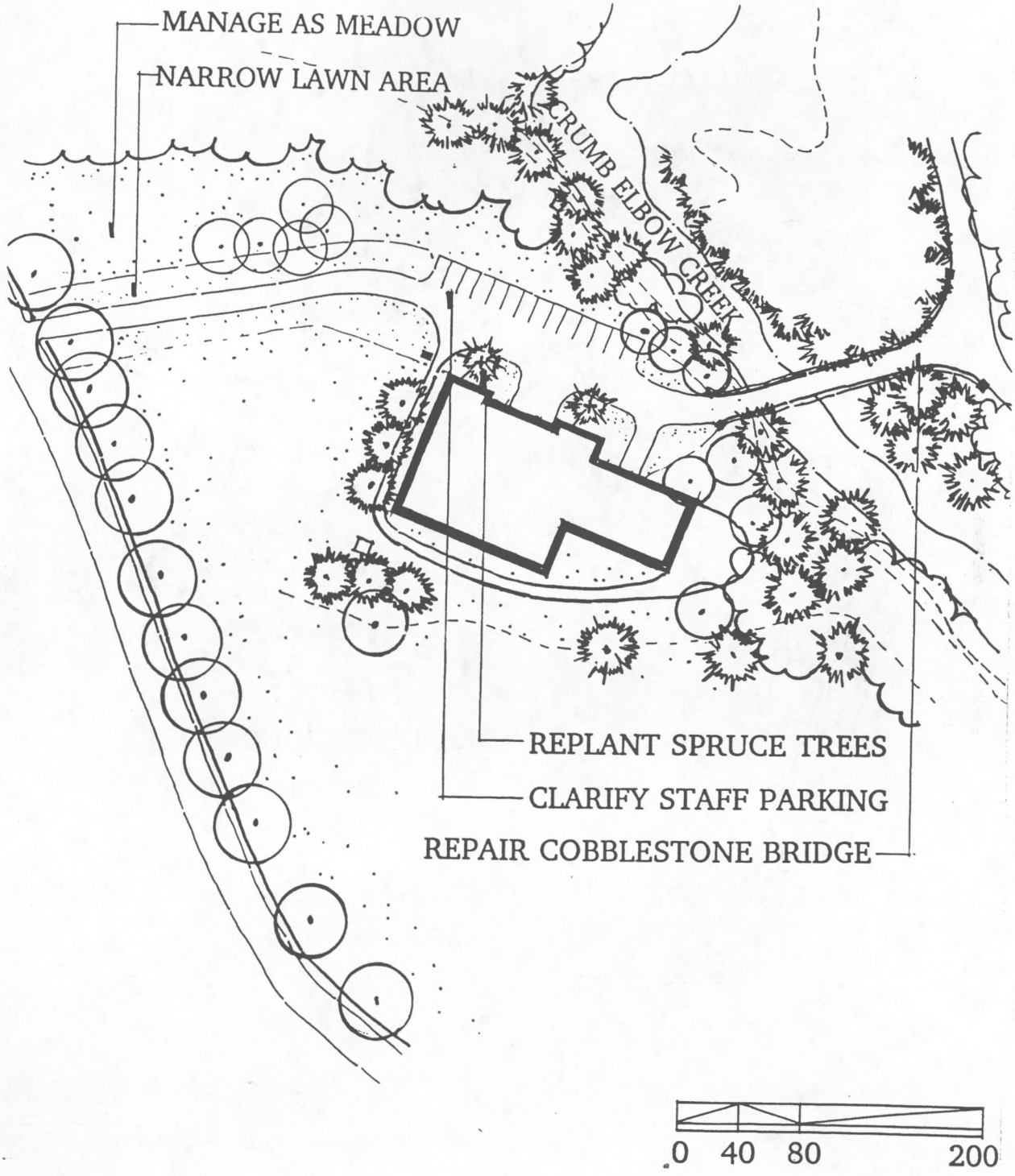


Figure 60. Interim proposed circulation for Coach House Maintenance Center, 1993-1994. LANDSCAPES.

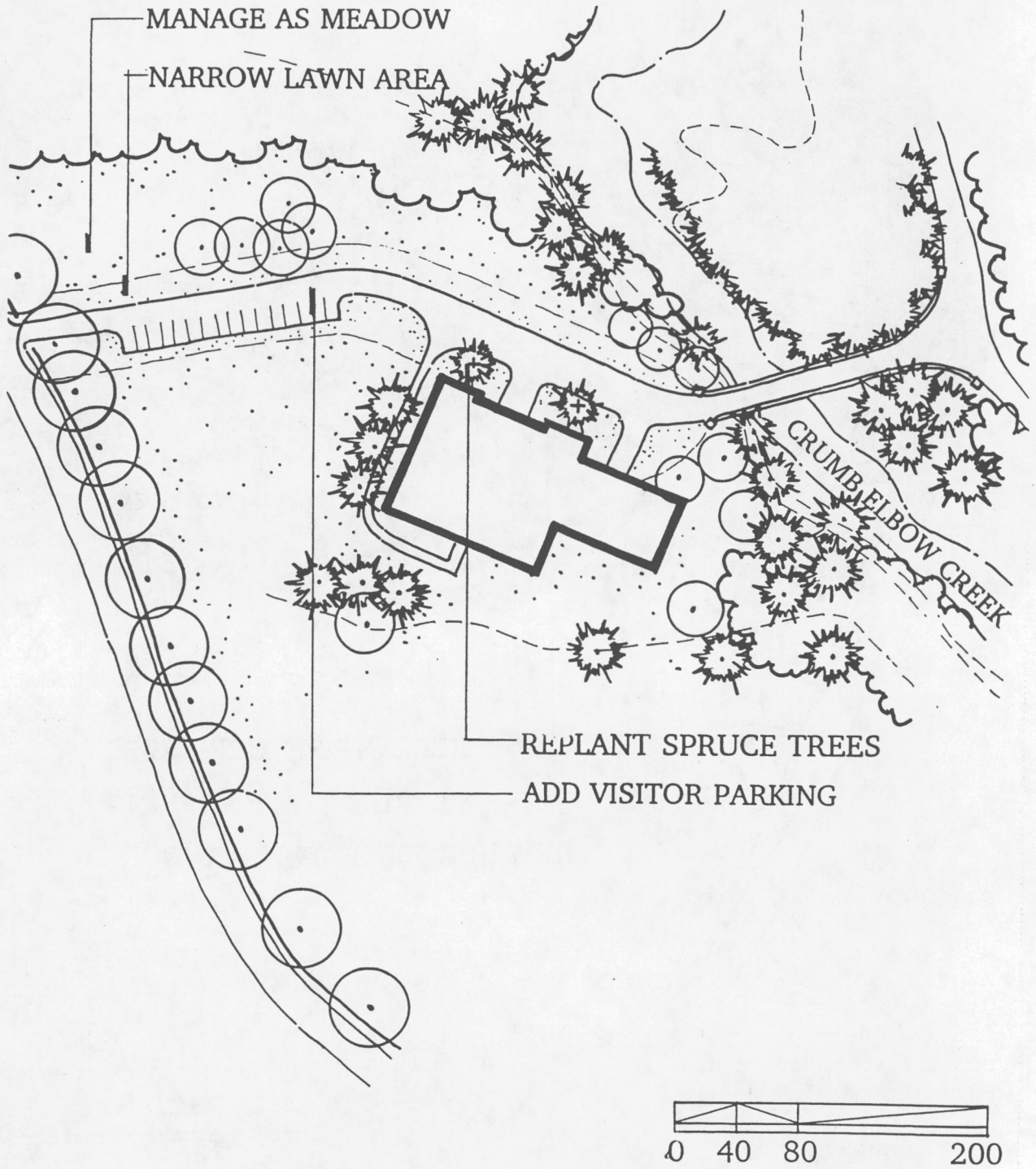


Figure 61. Restoration treatment recommendations for the Coach House when it becomes a visitor exhibit of Vanderbilt carriages, 1993-1994. LANDSCAPES.

Character-Defining Features: The meadows and woodlands of this area, as elsewhere on the property, provide the spatial organization for the treatment unit primarily through the vegetation and also the circulation. Open meadows framed and extended from the building and woodlands continue along Crum Elbow Creek. As elsewhere, the meadow and woodland relationships have been somewhat altered over time. The management of the turf does not distinguish between finely mown grass and less frequently mown meadow today. At a detail level the two spruce trees paired on the facade of the building has been lost and pavement sizes and parking areas have increased. The 1935 and 1947 aerial views are useful for assessing the late Vanderbilt spatial organization, vegetation and circulation for this area.

Implications for Restoration, Anticipated Treatment Projects, Unit #9: The circulation and access to the Coach House is intended for some reorganization and upgrading in the short term to accommodate its current Maintenance Center use, as seen in Figure 60. When this use is relocated to another structure off-site, the building is to be developed as a Vanderbilt coach and carriage exhibit. At that time the circulation around the building would be restored to its Vanderbilt era condition and parking would be provided between the Coach House and the west entry drive, as shown in Figure 61. At that time the NPS parking lot would be removed and parking would be relocated along the edge of the drive.

The two spruce trees are to be replaced in front of the Coach House. The areas directly surrounding the Coach House are to be managed as lawn, while to areas beyond are to be managed as meadow with a diversity of grasses and forbs. This areas if quite extensive, encompassing around two acres.

As in other areas, some woodland intervention to control invasive species is required in the forests of this treatment unit. Removal of undesirable trees and all invasive vines should proceed along the forest edge of about 3000 feet requiring a modest level of intervention to suppress invasive species. About 3.5 acres of woodlands will also require removals with a weed wrench or cut and paint approach as described earlier. Again, the level of intervention is expected to be low as this woodland area appears to be in relatively good condition. Ongoing woodland management will be required.

Perimeter Walls, Treatment Unit #10

This treatment unit consists of the whole perimeter wall surround three side of the property, excluding the three entrance gates. It is shown on Exhibit 30: Proposed Treatment Units, as area 10 earlier in this report, and since this feature wraps around the entire property, the exhibit is not shown again here. The walls that frame the VMNHS property on three sides are an important visual and spatial element of the property. The walls along the south and east property boundaries are constructed of a rubble core, grey stone veneer and a large cap stone and vary in height from about four to six feet. The north property wall is stone field wall roughly piled and somewhat tumbled down.

Documentation: Historic source materials generally indicate the location of these walls. Both Vanderbilt and NPS era plans show walls symbols. A earlier plan of the former Sexton Estate, sows the current north boundary with a wall in the late 1890s. As noted previously, sources are referenced in Appendix D: Source List Plans 30-37. Vanderbilt era views of the perimeter walls

were taken by Charles Pierraull circa 1899, (Vol. 1, Figure 55, 67, & 68). Portions of the high retaining wall along Route 9, which are now buried beneath an earthen berm, are shown in Figures 19, 20 & 21 in this report. There is also a written account of the removal and World War II donation of the short iron picket fence, mounted atop a portion of the wall. No photographs document this fence. Additional evidence is found in the short iron fence still mounted on the wall at the Wales House on West Market, and traces of lead expansion wraps and iron bars remain along a portion of the Route 9 wall. Perhaps this short fence was located along the portion of high retaining wall, exposed to the west, to prevent access over the relatively short wall along the public road side to the east. Further field investigation is required to clarify the former extent of this fence.

Character-Defining Features: The perimeter walls are the delineating element defining three property boundaries. This large built element is the a character-defining feature noticed when approaching the property from the surrounding public roads and when inside the property at various locations. The materials, details and craft applied in constructing this highly visible element are components of its character.

Implications for Restoration, Anticipated Treatment Projects, Unit #10: The dressed stone walls that surround the property would be repaired or rebuilt as needed to recapture their historic condition. Each section of the rebuilding is developed into a cost estimate in Appendix G. That varying conditions of these walls require different assumptions regarding their restoration. The West Market Street walls, running a length of 1600 feet, would be about half rebuilt due to extensive deterioration. The remaining 50% is intended for repair at a more or less intensive level based on condition. The Route 9 walls, extending for 4,100 feet, are also intended for a 50% dismantle and rebuild with the balance requiring repair, to include repointing and some individual stone replacement.

For the area now supported by a earthen berm of fill, the removal of the earthen berm and rebuilding of the Route 9 wall should be considered in the future. This approach was considered in the early 1980s but the cost and disruption to Route 9 traffic was a significant obstacle and instead the fill was placed to stabilize the condition and limit the safety hazard of wall failure. The length of high wall is thought to be about 100 feet with about a twenty foot height on the Vanderbilt property side. If this wall is excavated and reconstructed, it may require some thickening or buttressing to support the extensive load against it. The missing iron fence should be replaced atop a portion of the Route 9 wall assumed to be about 100 feet in length. The Wales house fence, which provides some tangible documentation for this fence, is about two feet tall with iron pickets through two cross bars.

The north property boundary wall, comprised of loose laid stone, should be dismantle and rebuilt. This wall runs from the railroad to Route 9, along a 1650 foot property line.

Property Drives

The drives throughout the VMNHS property are a critical character-defining element to experience of the property. They form and integrated circulation system and are therefore considered as a treatment unit separate from the areas they move through. Treatment unit #11 consists of all of the drives within the property and is shown on Exhibit 30, rather than repeated here.

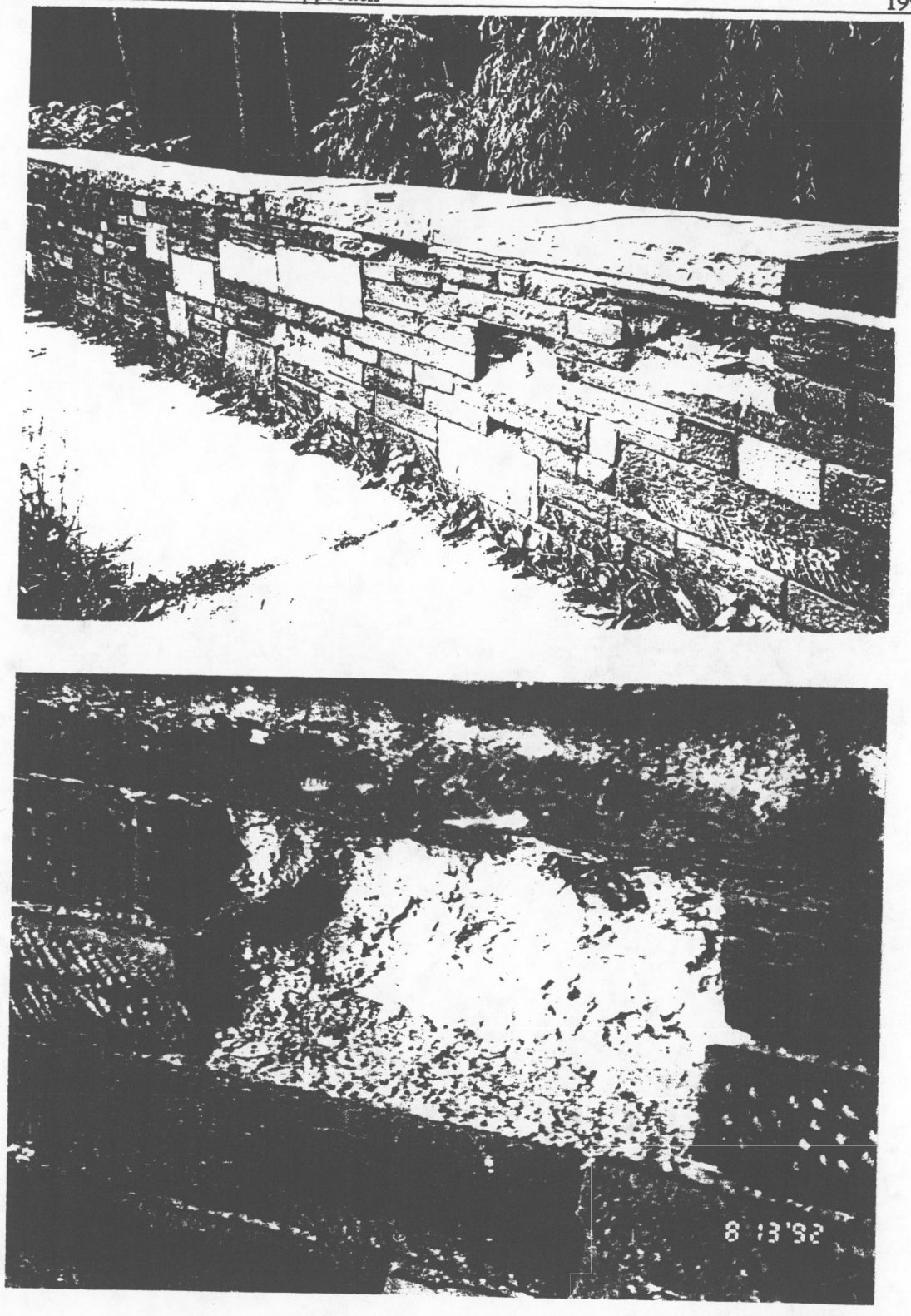
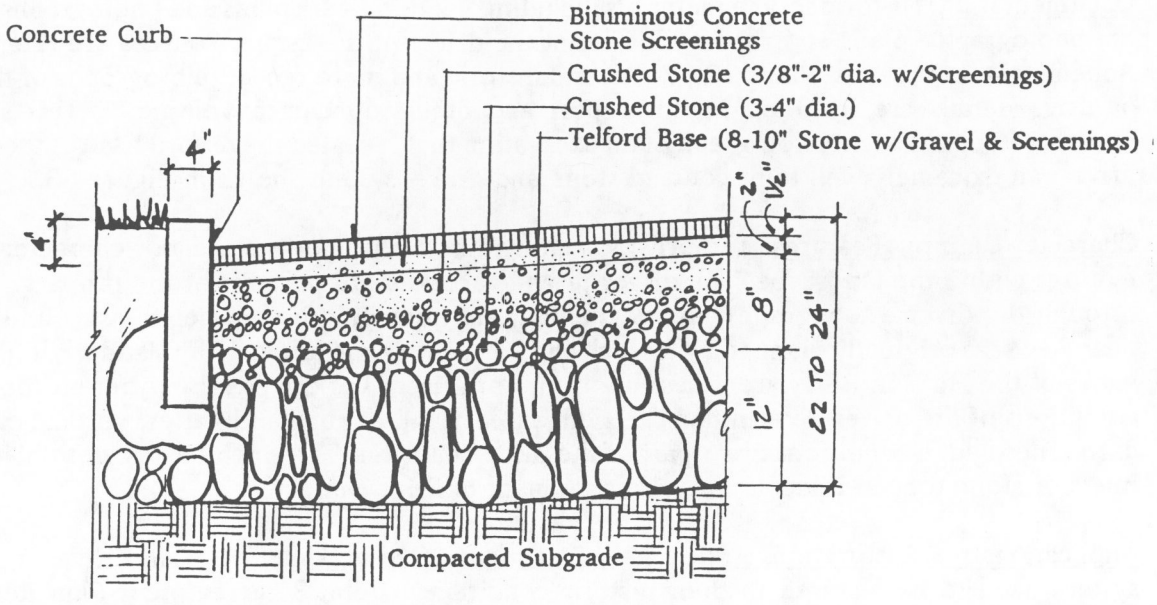


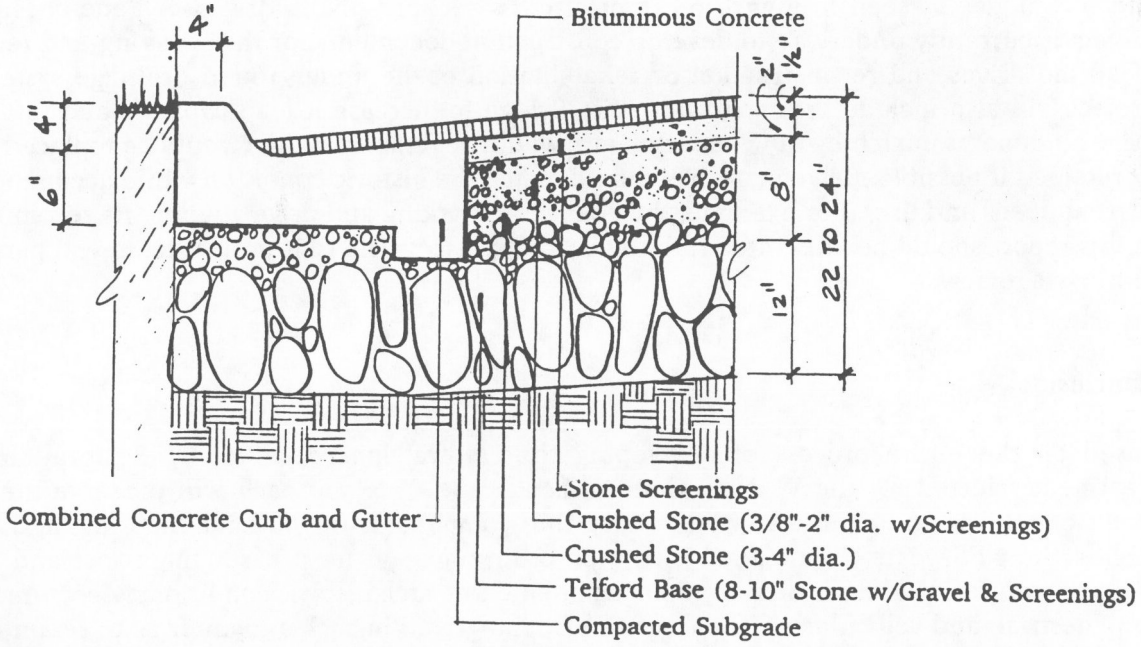
Figure 62. Two recent photographs showing typical deterioration along the Route 9 perimeter wall. VMNHS maintenance files.



Figure 63. Photograph of recent excavation near River gate showing cross section of telford drive with large stone on compacted subsoil, and three course of smaller stone above. VMNHS maintenance files.



VERTICAL CONCRETE CURB & DRIVE SECTION
Scale: 3/4" = 1'-0



CONCRETE CURB-GUTTER & DRIVE SECTION
Scale: 3/4" = 1'-0"

Figure 64. Recommended cross sections of curbed drives within VMNHS, to retain the historic telford base, "Vertical Concrete Curb & Drive Section" and "Concrete Curb-Gutter & Drive Section", 1993-1994. LANDSCAPES.

Documentation: Historic source materials including Vanderbilt era plans and photographs and NPS era photographs, plans and reports document the drives of the estate. Sources are referenced in Appendix D: Source List Plans 30-37. Several historic and more recent photographs of the drives or drive details are included in this report and others appear in Volume 1. This section is illustrated with a recent photograph of an excavation that revealed the telford base of the property drives, an extremely well built coursed stone and gravel system shown in Figure 63.

Character-Defining Features: The drive system within this property is a major character-defining features within the landscape. The drives provide access to all portions of the property, weaving through the diverse topography and vegetation, and providing broad scenic vistas and pleasing near views, as originally planned by Hosack and Parmentier and added to by Vanderbilt. Expansive views of the Hudson River are accessible from portions of the drives. The different topographic conditions of the drives determined their edge treatment, as curb and gutter, vertical curb or no curb. These edge conditions are a part of the drive character. The catch basins, with historic cast inlets or stone topped inlets are also a component of drive character.

Implications for Restoration, Anticipated Treatment Projects, Unit #11: The drives as a whole system need to be restored to their historic condition. Exhibit 31: Treatment Plan Restoration Approach, shows the location of all of the drives within the property. This drawing also indicates them graphically as drives with an integrated curb and gutters edge by showing a double edge line, drives with a vertical curb, shown with single line edges and drives without curbs shown with a centerline. The drives should be repaired or rebuilt to their original form using historic materials and techniques as seen in Figure 64, typical cross sections of the drives. A Federal Highways project is currently underway to develop construction documents for the repaving and recurbing of all the drives and reconstruction or rehabilitation of the underground drainage system. The project will also include the repair of White Bridge to increase it load capacity and safety. The drive alignments, matching the Vanderbilt era, would be retained. Curbs would be replaced in-kind or retained if possible. Drive materials should match the historic condition while accommodating current needs and uses. For example, the changes to parking and drive alignments recommended in this report should be integrated into the current project. The CLR project team will participate in project review.

Conclusion

Based on the entire process of developing the cultural landscape report Restoration is the treatment selected for the VMNHS Cultural Landscape. This approach will preserve the extant historic features and character while addressing components of the landscape lost and altered during the NPS years. As detailed in the preceding text, in most cases these lost and altered historic features will be restored or replaced in-kind to match historic conditions. Accommodation of pedestrian and vehicular visitor access is also integrated in such a manner as to retain historic fabric and character. The following chapter provides an approach to implementation of the Restoration treatment that includes increased staffing and staff skill development, improved tools and equipment to address needed tasks, capital projects and partnership efforts, most notably involving the F.W. Vanderbilt Garden Association.

CHAPTER II: ENDNOTES

1. Vanderbilt Mansion National Historic Site, New York, Final Master Plan, , January 1976, p. 30.

2. Vanderbilt Mansion National Historic Site, New York, Final Master Plan, , January 1976, p. 27.

3. The full citation for these two plans is "The Mansion and Pavilion, Part of the Master Plan, Vanderbilt Mansion National Historic Site, NHS-VM-2005, January, 1941, USDOI", and "Tree Replacement Plan, Part of the Master Plan, Vanderbilt Mansion National Historic Site, NHS-VM-2012, July 1, 1941, USDOI".

4. The full citation for this plan is "USDOI National Park Service, Existing Conditions - Topo - 1946, US Geological Survey, New York (Dutchess County), Vanderbilt Mansion National Historic Site, VMNHS Drawing No. VHS-VM 3015, Scale 1" = 200'.

5. Full citation for this plan is "Foundation Planting, for Frederick W. Vanderbilt, Esq., Hyde Park-on-Hudson, N.Y.", February 1923, Scale 1/8"=1', Robert B. Cridland, Landscape Architect, Philadelphia and Atlanta, No. 430-B, VMNHS, no. V-120.

6. Plan of Torham, Estate of the Late Samuel B. Sexton, near Hyde Park, Dutchess County, Benjamin Brevoort, Civil Engineer, VMNHS, no. V-244.

7. A 1991 ROVA oral history interview on video cassette of a conversation with Lena Kipp, former estate resident includes comments that she recalls playing in these gutters during summer rain storms with the rain water runoff flowing in them.

III. IMPLEMENTATION OF THE RECOMMENDED LANDSCAPE RESTORATION TREATMENT

IMPLEMENTATION APPROACH

Several approaches to implementation of the proposed cultural landscape restoration are recommended. A series of projects have been discussed in some detail in the previous chapter. The project priorities are also considered within a context of level of deterioration and preservation need and importance for the restoration of historic landscape character. Conceptual, Class C, cost estimates are developed to gain a sense of the level of cost magnitude for capital projects and for on-site project staffing and materials. These costs are included as Appendix G. Treatment projects for the Formal Gardens will go forward as a collaboration with the Frederick W. Vanderbilt Garden Association.

A number of projects are proposed as contracted capital projects, totalling approximately $1,988,800. These would follow the standard construction documents process in many cases. For example, the upcoming Federal Highways project to repave and recurb the drives and rehabilitate the White Bridge is a contract project and all drive paving elements of the recommended work would be considered contract. Smaller projects, such as the repair of iron gates, the construction of lost iron mesh arbors or replacement of lost garden sculpture, may involve bidding, as specialized work, to a metal fabrication or stone conservation and sculpting shop.

Another group of projects are proposed as either contractor or staff projects. These are projects that could be put out to bid but with increased skilled staff these projects could be done on-site. Sufficient person power, skills and materials budgets would need to be available for these undertakings. In general a staff approach to these projects will serve to significantly reduce costs over a contract approach while increasing skills and ability to manage the landscape over the long term. Some projects, such as the rebuilding of walks and perimeter walls and tree planting and forest management, would best be done by staff because of the incremental nature of the work and the desirability of increasing staff skills. To effectively undertake this work an overall increase in the number of positions would be required in the areas of masonry, forestry, and horticulture.

This three-fold approach to implementation of the landscape restoration treatment is recommended. Projects would be carried out as contract work, staff undertakings or collaboration between staff and volunteers. Projects has been assigned to four groups:

- Capital projects with contract documents ($ 1,988,800);
- Contract or Staff projects, based on funding and capabilities ($ 2,648,100);
- Staff projects in masonry, forestry and horticulture ($ 985,600);
- Staff and volunteer collaboration for horticulture work on the Formal Gardens ($ 203,600).

The implementation of the proposed restoration treatment will proceed over a period of years. The approach anticipated is diverse and in non-traditional in that other approaches than capital projects are recommended. The kinds of deterioration and needed actions to address the restoration of this important 211 acre landscape do not lend themselves exclusively to a capital projects format. The management of the landscape, as a combination of living and built elements, may be best served by a resident skilled staff. The backlog of masonry work on walls, gates and paths, totalling

$1.615,100, and of forestry and tree work totalling $1,600,700, includes fully 55% of the recommended projects. The masonry work, for example, could be approached with the hiring and training of a three person masonry crew. This crew would work on rebuilding lost pedestrian paths and restoring the perimeter walls. They would begin with the development of the paths for improved visitor access and the restoring of portions of the perimeter wall that are in the worst condition. Over a period of five years they could accomplish a great deal toward the restoration of these elements at about half the cost or contract work. The costs of this crew would be about $600,000 for the five year period with materials and equipment estimated at about $250,000 as compared to a conceptual estimate of over $1.6 million dollars for the total work scope. The same logic applies to the long-term backlog of forestry work, valued at about $1.6 million dollars. Additional projects toward replanting lost gate and foundation plantings, of a more horticultural nature, is estimated at $55,800. While the work on Formal Gardens plantings, the most elaborate horticultural area within the property, requires approximately $203,000. Establishing skilled masonry, forestry and horticulture crews to complement the work that would be undertaken under contract would accomplish the landscape restoration most effectively.

PROJECT PRIORITIES

Deterioration of built elements, such as bridges, dams, paving and underground drainage is readily apparent throughout the VMNHS landscape. Upon careful study the overall deterioration of the woodlands and meadows of the property are quite evident as well. The loss of both built elements and plantings at the Formal Gardens has also been thoroughly cataloged. Project priorities should address safety issues first. The upcoming work on the White Bridge, property drives and drive drainage system will address a number of these issues. Deterioration of the entrance gates and the perimeter walls is severe in some areas and these problems must be addressed in the short term. The other major aspect of public safety is the proposed work on the historic trees. The large tree collection on the property is aging and has not received sufficient care in recent decades. The first place to begin this work is in the areas along pedestrian paths and drives. Thereafter, the entire core area of the property, call treatment units #1, #2 and #3 in the previous chapter, should be addressed. While not a public safety issue, the ongoing deterioration of the slope from the broken drainage line downslope of the Mansion should be repaired as soon as possible.

Priorities should also address opportunities for collaboration. In recent years the F.W. Vanderbilt Garden Association has made important strides toward recapturing the Formal Gardens. The documentation developed in this report thoroughly details the Vanderbilt appearance of these gardens. The restoration of the perimeter walls, fences, arbors and sculptural elements should be undertaken by NPS as the garden plantings are restored to their Vanderbilt condition by the Garden Association volunteers.

As immediate needs for public safety are met, the restoration of the historic character of the landscape should proceed. An early priority is the upgrading of the pedestrian path system throughout the core area to provide handicapped access. These proposed paths would be restored along Vanderbilt alignments, recapturing historic character while providing access. The deterioration of the VMNHS woodlands has intensified over the past four years during this CLR process. The suppression of invasive species and reshaping of the woodlands should not be delayed. The Lower Meadows, where the problems are most apparent are a logical starting point for this effort. A timely approach to the suppression of the invasion of *Ailantus altissima* (Tree of

Heaven) along the ridge line west of the Mansion would improve the view and the visitor experience of the property.

The property-wide project needs are clearly articulated in Chapter II and supported by the estimates in Appendix G. Over a period of ten to fifteen years the complete restoration of the VMNHS cultural landscape should proceed. The selection of restoration as a primary treatment is based on the extensive remaining fabric of this historic landscape and the high level of documentation available. Long-term, incremental deterioration has taken a toll and a significant investment of project funding and skilled staff will be required to implement the envisioned restoration. This important cultural landscape can be restored authentically if the necessary commitment is forthcoming.

APPENDIX A: REVIEW OF PROJECT DIRECTIVES 1991, 1992, 1993

In reviewing the "Resource Management Plan, Roosevelt-Vanderbilt National Historic Site" for 1992 and 1993, and the relevant project directives for VMNHS, it becomes clear that many of the projects are not site specific but instead focus on broad issues that are common to all three sites under the responsibility of the Roosevelt-Vanderbilt National Historic Sites (ROVA). Five different sources were reviewed (see Sources). These project directives dating from the past three years, reveal the breadth of thinking about the historic landscape. Projects are often proposed for Vanderbilt Mansion National Historic Site (VMNHS) as well as for Home of Franklin Roosevelt (HOFR) and the Eleanor Roosevelt Home (ELRO). These include issues of pest management, non-native plant species, fire management and site mapping. Many of these projects were addressed in the preliminary recommendations for the historic landscape treatment and management in the CLR.

However, several of the projects address only VMNHS. Some are designated for an individual structure or area, and others deal with a system (ie., circulation or drainage). The majority of the project directive, for the fiscal years 1992-1993, are designed to provide information and treatment to more than just the Vanderbilt site. They include work for one or more of the properties under the guidance of the ROVA office. Language clarity in the use of treatment terms is lacking in many of these directives.

The only cost information that has been reviewed was provided by the site. In many cases these figures have not beeen updated for several years. When available the provided costs estimates are listed next to the project directives title.

1992-1993 Projects
Each of these projects is briefly summarized using the project directive descriptions from 1992 and 1993. The project titles and organization of directives has changed over the years and we have incorporated the 1991 and 1992 project information in to the titles or groupings now in use for 1993. The six projects that focus on just the Vanderbilt site include:

1) Power house restoration (ROVA-C-023)
2) Restore VAMA utilities, basement, and exterior (ROVA-C-029)
3) Rehab and restore dams and stone wall (ROVA -C-033)
4) Rehab roads, bridges, parking lot, drains, & curbs (ROVA-C-030)
5) Rehab/rest estate dependencies, gardens, grounds (ROVA-C-031)
6) Implement cultural landscape treatment plan (ROVA-I-008)

1) Power house restoration (ROVA-C-023) Budget $ 90,000
The power house restoration project has site specific landscape impacts. In an effort to restore this structure the surrounding environs will also be restored. This will include clearing vegetation to recapture the pedestrian way leading up to the site from the main entrance drive and the White Bridge. This is one of the only projects specifically focused on Treatment Area #1.

2) Restore VAMA utilities, basement, and exterior (ROVA-C-029) Budget $ 5,590,000
Plans for restoration of the Mansion would have an impact on the immediate landscape. Although the foundation plantings have been removed, work that is proposed for this area would allow for

the possible documentation of the historic foundation plantings surrounding the Mansion. In an effort to rehabilitate the structure and limit the further deterioration of the basement much structural work is proposed to be done. Extensive excavations will be conducted to reduce the drainage problem around the foundation, to eliminate further structural damage. This project designated for Treatment Area #4, Mansion and surrounds, on the Preliminary Treatment Units Plan.

3) Rehab and restore dams and stone wall (ROVA -C-033) Budget $ 2,405,000
The proposal to rehab and restore dams and stone wall indicates that it involves restoration, rehabilitation or reconstruction to extend the life of these features and to achieve safety and engineering standards. The three dams are currently in a deteriorated state and are leaking. The dams are to be rehabilitated which should help to improve the historic functioning of the White Bridge and Middle Dam since water is no longer impounded. These prominent historic site features are proposed to be stabilized and repaired to present an improved appearance. This proposal identifies work in several Treatment Areas #1,4,5,6,8,9 & 10.

4) Rehab roads, bridges, parking lot, drains, & curbs (ROVA-C-030) Budget $ 6,050,000
Repairs are proposed for the roads, bridges, parking lots, drains, curbs, sidewalks, tunnel, gates and portals at VMNHS. To address issues of public safety the four public bridges are to be studied and rehabilitated. The proposal states that they should be "rebuilt" to achieve safety standards, and "restored" to the historic appearance. (This seems to be contradictory. Rehabilitation of the bridges is required for basic safety consideration. The historic fabric of the bridges should be retained to the greatest degree possible.) The road and parking lot are proposed to be returned to historic grades with new drains, curbs, sub-base and paving. Curbs are to be replaced, many of which are damaged or deteriorating. The historic curbs, that parallel the park drives, have been obscured with successive repavings. Many of the former curbs and drainage ways have been paved over compromising their function. (Efforts should be made to repair these features when possible rather than replace them. When possible, retain sound portions of curbs and drainage and replace in king deteriorated segments. Current proposals call for replacement of the curbs, roads, and drains.) The retaining wall for Route 9 is to be repaired. Restoration is planned for three entrance gates. These cast iron gates with granite piers are deteriorating. This project proposes to restore, rehabilitate or repair many of the historic circulation features on the site. This project focuses on several Treatment Areas simultaneously. The roadways and curbs involve Areas #1,4,5,6,7,8,9, & 11. The bridges involve Areas #1,7,8 & 9. The retaining wall is in Area #10.

The Federal Highway Administration project as listed in the Scope of Work, Task Order No. 7 C-R, for the Vanderbilt Mansion, specifically addresses the rehabilitation of the roads within the site and includes roadwork for Route 10, the Visitors Center parking area, the Visitors Center access road, Route 11, Route 12, Route 13, Route 401, and the White Bridge. The project requirements for Route 10 or the entrance drive from Route 9 include:

- the rehabilitation of the roads to original grade;
- reconstruction of curb to match the character of the historic curb;
- adding new inlets, matching the character of the historic grates;
- evaluation of the entire drainage system;
- design of a traffic loop on Route 10 and;
- design of defined approaches at entrance and exit to Route 9 and the addition of granite curbs along this road.

Requirements for Route 11, Bard Rock are:

- widening of the pavement from 16 to 18 feet and the addition of asphalt curbs; pavement overlay;
- review of drainage and addition of needed culverts and;
- design of steelbacked timber guardrail at bridge approach.

For Route 12, the improvements are to include pavement overlay, additions of curbs and drainage review. For Route 13 the only improvement is a pavement overlay. The White Bridge is to be repaired as shown in preliminary drawings by FHWA. (The drawings for the White Bridge have not been received and therefor have not been reviewed. This FHA project addresses many of the issues in the previous ROVA project description. The addition of curbs along historic drives that never had curbs is problematic. The widening of Bard Rock or Route 11 should be reviewed. Widening of this road would alter the character of the landscape. The addition of a guardrail along the bridge approach needs to be reconsidered, this would interfere with the visual character of the site.)

5) Rehab/rest estate dependencies, gardens, grounds (ROVA-C-031) Budget $ 4,140,000
Rehabilitate and restore estate dependencies, gardens, and grounds. This project proposes to restore many of the structures within the estate. Included in this proposal are the gardens, garden vistas, greenhouses, trees and trails. (This is a layered and complicated proposal bringing in diverse aspects of the landscape - structures, gardens, vistas and vegetation.)

Recreate the Boat House and dock at Bard Rock is a portion of this directive. (This was found only in the 1992 project directives descriptions.) The Boat House was removed by the Park Service because of deferred maintenance and vandalism problems. It is now the intention to recreate the structures in this area to aid in its interpretation. (This has great implications to this area of the site with the reintroduction of lost historic features.)

Recreate the Coachman's House which was removed by the Park Service. (This was found only in the 1992 project directives descriptions.) This building deteriorated to such a point that it was necessary to remove it. The structure would be recreated and then used as park housing. (This has great implication to the site, with the reintroduction of a lost structure.)

One aspect of the proposal aims to restore the remaining garden features and appurtenant works in the Italian Gardens. Power and water needs are to be addressed as well as the restoration of many of the lost features, like the hot beds and cold frames. (It seems that some of this work should be considered reconstruction rather than restoration, since many of the elements included in this proposal have been lost, ie. rose garden fence, fence panels of the perennial wall border, cast features, and pergola panels. Other aspects would be considered rehabilitation, ie. the water distribution system.)

Recreate of the Italian Garden vistas is vague mentioning that the historic arrangement of trees, shrubs and flowers have died or become so overgrown as to be unrecognizable. Efforts should be made to restore each vista to its historic appearance. (Where are these vistas? This has widespread implications for action beyond this simple concept. Vista restoration within the landscape would entail vegetation planting and removals. Vista restoration site-wide needs to be considered,

especially along the Lower meadows. Plans need to be more specific as to areas, focus and desired outcome.)

The greenhouses in the Italian Gardens are to be recreated. These structures were removed by the Park Service. The desired reconstruction sequence begins with the Carnation House, followed by the Palm Houses, the Lower Green House and the Lower Meadow Greenhouse. (Budgetary consideration needs to be made to allow for the long term maintenance of these glass houses. What is the intended use beyond evoking scale relationships and massing. Will they be functional or just decorative?)

The specimen tree collection is to be replaced. (No specific methodology is mentioned. This proposal need to flesh out the purpose and qualification of tree replacement. These should be done in-kind as recommended in the CLR VMNHS, Volume 1.)

The trail and walk system is to be rehabilitated to preserve the historic landscape and provide safe access for the visitors. This will include paths to the Power House and the gardens. (The historic pedestrian system on the whole site should be rehabilitated or restored to reflect the late Vanderbilt period. Lost segments of the historic path system from Bard rock needs to be recaptured.) This proposal basically proposes work in the whole site, in the Treatment Areas #1-9.

6) Implement cultural landscape treatment plan (ROVA-I-008) Budget $ 120,000
The proposal to implement the cultural landscape treatment plan includes developing a series of treatment recommendations to restore the landscape to its historic appearance. Considerable overlap with other projects is anticipated. These recommendations then need to be implemented which have implications for staffing, equipment and base funding as well as capital programs.

The majority of the project directives are large site scale or concern several sites. Implications for the Vanderbilt site are briefly described for each of these sixteen projects for 1993 and 1992.

1993 - Overall Site
1) Archeological id/evaluation study: VAMA,HOFR,ELRO (ROVA-C-025) Budget $ 25,000
Limited site specific archeological investigations have been done on the Vanderbilt site. This project proposes that future investigations be done in coordination with restoration or development work. Many of the restoration projects specified in the CLR would benefit from further intensive archeological investigations.

2) Archeological overview/assessment - VAMA & HOFR (ROVA-C-034) Budget $ 15,000
A Cultural Sites Inventory is required by the NPS for each park unit. Currently this does not exist for VMNHS. This inventory is important to evaluate past work in the area and to propose future work that should be coordinated with proposed restoration and development projects.

3) Preparation of cultural landscape preservation guides - VAMA,HOFR,ELRO (ROVA-I-007) Budget $ 40,000
This is the work currently in progress at VMNHS. This proposal is requested to address tree replacement strategies, meadow maintenance, and screening strategies. The screening strategies entail the White pine plantation along Rt. 9.

4) Update historic base maps: HOFR, VAMA, AND ELRO (ROVA-I-010) Budget $ 20,000
Base mapping for the site is important as a tool for all future projects. Much of this work was done as part of the CLR. Georeferencing of this information is useful as GIS systems are developed.

5) Inventory/mitigation of visitor use impacts (ROVA-I-013) Budget $ 100,000
It is important at the VMNHS to determine what damage is occurring to the natural and cultural resources of the site from the influx of visitors. The historic landscape was not designed for use as a national park and many of the historic elements have deteriorated. Alternatives need to be determined in conjunction with all work and proposals for the cultural landscape preservation guidelines.

6) Control of non-native plant species (ROVA-I-018) Budget $ 15,800
The Tree-of-Heaven is singled out as one of the non-native species that is causing problems at the VMNHS. It has invaded the woodlands, meadow edges and elsewhere on the property. It is important to determine the best method of control for this species but measures should also be considered for other potentially damaging non-native species and some natives (Poison Ivy). Other properties in the Northeast are having similar problems with the Tree-of-Heaven and other plants (Oriental bittersweet, Norway Maple, Sycamore Maple). It was recommended that species control be coordinated with the CLR.

7) Prepare integrated pest management plan (ROVA-I-024) Budget $ 0
This proposal recommends the preparation and implementation of pest management strategies. This would include animal and plant pests like mice, pigeons, starlings, deer, crabgrass and tree-of heaven. Specific plans for each type and category of pest need to be developed. These problems occur at the VMNHS and the other sites. A plan of action is needed to coordinate efforts and to best utilize ROVA resources.

8) Design GIS database for tree management in North Atlantic Region (NAR) parks (ROVA-I-025) Budget $ 27,000
This is a region wide project that has implications for the site. A functioning database with topological information would be an effective planning tool for the park. Current tree information is accessible. This type of database would allow quick access to existing information and the potential for constant updating. It is intended to have the capability of producing on-line tree preservation guidelines, schedules, status reports and horticultural requirements.

9) Digitize site maps for HOFR, VAMA, ELRO (ROVA-I-026) Budget $ 2,500
This project coordinates with designing the GIS database for the region as described above in #8.

10) Prepare fire management plan (ROVA-N-007) Budget $ 0
Although there are limited wildfires in this area of New York a management plan needs to be recommended as stated in the National Park Service Wildland Fire Management Guidelines. Prescribed burning may be an alternative method of vegetation control for the open field areas at VMNHS. The possibility of burning as a maintenance tool needs to be researched further and guidelines established.

11) Study white-tailed deer population (ROVA-N-013) Budget $ 75,000
Research needs to be conducted on the deer population at Vanderbilt, as well as the other sites. Noticeable damage is occurring to the cultural plantings. In the Italian Gardens, deer have been

eating many of the restored plantings maintained by the Frederick W. Vanderbilt Garden Association. Soap is hung near some of their favorite plants and this is marginally effective. Measures should be proposed to control future damage to the landscape. This can only occur after research into the current deer population size, range, habitat utilization, food habits, and others characteristics is conducted.

12) Produce vegetation cover maps (ROVA-N-016) Budget $ 15,000
Updated vegetation maps at a scale of 1:2400 are needed at all the sites to provide a basis for future resource management. Some of this information should be available for the VMNHS from portions of the CLR mapping developed in Phase 1 and 2.

13) *Contract for aerial photography (ROVA-N-017) Budget $ 15,000
Aerial photographs are tools for effective management and planning of each property. Photos need to be at larger scales than the current information at 1:24000. These photographs would provide needed documentation of existing conditions as a tool for future planning.

14) *Base program: natural resource management (ROVA-N-001) Budget $ 232,000
All the parks resources need to be effectively managed. This proposal would establish and maintain long range planning procedures, personnel management, programming and budgeting and supervision of natural resources. This has definite implications for both cultural and natural resources at VMNHS.

1992 - Overall Site
These two projects were only listed in the 1992 project directives lists.

15) *Conduct rare plant survey and update inventory Budget $ 2,000
A thorough survey is needed of the site to determine the existence of any rare plants. The existence of any rare or endangered plants on the site would need to be considered in any future planning.

16) *Survey and monitor gypsy moth (Funded FY93) Budget $ 400
A study of the gypsy moth and monitoring of their activity would allow for planning for protection of many of the significant specimen trees at VMNHS. The potential for total defoliation and damage to these significant historic trees needs to be considered.

(* Proposals not duplicated in 1992 and 1993. Items found only in one year.)

Some specific areas at VMNHS were not considered in any of the project directives but were initially included in proposed treatments, Appendix A: Preliminary Recommendations for Historic Landscape Treatment and Management in the CLR VMNHS, Volume 1. These need to be considered for future budgets and include the following:

Lower Meadow restoration and maintenance
Vista management throughout the site and specifically along the Hudson River edge
Shrub planting and management
Foundation planting reinstatement (Mansion)
North Lawn potential reinstatement of meadow rather than mown lawn
Reduction of visual impacts of Overlook parking lot

Woodland edge restoration in the Lower Meadows
Landscape interpretation and conservation of Bard Rock
Coach House area landscape restoration to Vanderbilt period

SOURCES:

1) Project Directives, Date Prepared 1/18/89 and updated 6/6/91, Prepared by H. Van Brookhoven
2) Consolidated Priority Request List for Regular/Cultural Cyclic Maintenance, July 31, 1992
3) Project Directives, Date Prepared 1/18/89 and updated 8/19/92, Prepared by H. Van Brookhoven
4) Project List and Directives, 9/20/93
5) Resource Management Plan 1992, Roosevelt-Vanderbilt National Historic Sites, Hyde Park, New York, Unprioritized Lists of 1992 Statements

APPENDIX B: VMNHS FORMAL GARDENS DOCUMENTATION

PLANS

"Proposed Greenhouse for F.W. Vanderbilt", Scale 1/8"=1', Pierson U-Bar Co, Madison Avenue, N.Y.C., Plan no. 1250, VMNHS, no. V-145.

Sketch of Upper Terrace, with plant number codes and accompanying list of names, October 25, 1967, Alex Knauss, Vanderbilt gardener from 1924 to 1938, VMNHS.

Sketch of fourth terrace with plant names, October 25, 1967, Alex Knauss, Vanderbilt gardener from 1924-1938, VMNHS.

"Details of Axis Path and Catch Basins in the Gardens of F.W.Vanderbilt, Esq., Hyde Park, N.Y., October 26, 1902, Scale 1"=1', James L. Greenleaf, Landscape Architect, Plan #3, VMNHS, no. V-96B.

"Grading, Drainage, Path and Soil Plan, Gardens of F.W. Vanderbilt, Esq., Hyde Park, N.Y.", April 13, 1903, Scale 1"=10', James L. Greenleaf, Landscape Architect, Plan #48, VMNHS, no. V-114.

"Masonry and Timbering of North Pergola, Gardens of F.W. Vanderbilt, Esq., Hyde Park-on-Hudson", March 24, 1903, Scale 1"=4', James L. Greenleaf, Landscape Architect, Plan # 13, VMNHS, no. V-104.

"Cherry Trees, Walk, Pergolas and Trellis, Gardens of F.W.E. Vanderbilt, Esq., Hyde Park, N.Y.", portion of Plan #16 showing plan and section of pergola on garden terraces and trellis with window openings, 1903, Scale 1"=4', James L. Greenleaf, Landscape Architect, VMNHS, no. V-107.

"Detail for Wire Mesh Panels for F.W. Vanderbilt, Esq., Hyde Park-On-Hudson, Anchor Post Co., 15 Cortland St., New York", nd, ca. 1903, Order No. 122, VMNHS, V-106B.

Axonometric of Formal Gardens 1905-1907, showing Greenleaf constructions in the Italian Gardens, Vanderbilt greenhouses on upper terraces and sloping terrace edges, 1981, John Robbins, VMNHS.

"Garden Plan prepared for F.W. Vanderbilt, Esq., Hyde Park, N.Y.", June 10, 1910, Scales 1"=8'and 3/4" =1', Thomas Meehan and Sons, Mount Airy, Philadelphia, Landscape Architects, Plan #2011, VMNHS, no. V-170A. Surrounding shrub plantings coded by number on drawing. Plant list separate.

"Detail Arrangement of Gardens prepared for F.W. Vanderbilt, Esq., Hyde Park-on-Hudson, N.Y.", February 15, 1916, Robert B. Cridland, Landscape Architect, Bulletin Bldg., Philadelphia, Plan #133, VMNHS, no. V-122A. Plantings coded by number on plan. Plant list separate. Partial implementation of area around Lily Pool.

"Planting Plan for Garden Plat, Estate of Fred'k W. Vanderbilt, Esq., Hyde Park, N.Y.', April 30, 1917, Scale 1/8"=1', Robert B. Cridland, Landscape Architect, Philadelphia & Atlanta, No. 220, VMNHS.

"Rose Garden Arrangement for F.W. Vanderbilt., Esq., Hyde Park, N.Y.", no date, Scale 1/8"=1', Robert B. Cridland, Landscape Architect, 1000 Bailey Bldg., Philadelphia, PA, VMNHS, no. V-127. Roses coded on plan by color and form, no detailed plant list.

"Proposed Improvements in Formal Garden, for F.W. Vanderbilt, Esq., Hyde Park-on-Hudson, N.Y.", April 15, 1922, Robert B. Cridland, Landscape Architect, Philadelphia and Atlanta, No. 430, VMNHS, no. V-131B.

Axonometric of Formal Gardens 1922-1923, showing Meehan addition of Rose Garden structures and Cridland modifications to Italian Garden structures and walls, John Robbins, NPS North Atlantic Region, 1981, VMNHS.

Design for Remodeling Pergola, for F.W. Vanderbilt, Esq., Hyde Park, New York", no date, Scale 1/4"=1', Robert B. Cridland, Landscape Architect, Philadelphia and Atlanta, ca. 1922, VMNHS, no. V-130.

"Pergola Plan for F.W. Vanderbilt, Esq., Hyde Park, New York", May 2, 1922, Scale 1/2"=1', Robert B. Cridland, Landscape Architect, Philadelphia & Atlanta, No. F30A, VMNHS.

"Garden Plan for Frederick W. Vanderbilt, Esq., Hyde Park, New York", no date, Scale 1/2"=1', Robert B. Cridland, Landscape Architect, Philadelphia, Agnes D. Russell, Associate, VMNHS, no. V-128. Plant names indicated on plan.

"Planting Plan prepared for F.W. Vanderbilt, Esq., Hyde Park, N.Y.", no date, Robert B. Cridland, Landscape Architect, Agnes D. Russell, Associate Landscape Architect, Philadelphia, September 1934, Plan #1-20, VMNHS, no.V-119. Plants coded by number on drawing. Seperate plant list coded by number and quantities.

"Foundation Planting, for Frederick W. Vanderbilt, Esq., Hyde Park-on-Hudson, N.Y.", February 1923, Scale 1/8"=1', Robert B. Cridland, Landscape Architect, Philadelphia and Atlanta, No. 430-B, VMNHS, no. V-120. Plant list on drawing.

The Estate, Part of the Master Plan, Vanderbilt Mansion National Historic Site, Drawing No. NHS-VM-2004, January, 1941, United States, Department of the Interior, VMNHS.

The Mansion and The Pavilion, Part of the Master Plan, Vanderbilt Mansion National Historic Site, Drawing No. NHS-VM-2005, January, 1941, United States, Department of the Interior, VMNHS.

Tree Replacement Plan, Part of the Master Plan, Vanderbilt Mansion National Historic Site, Drawing No. NHS-VM-2012, July 1, 1941, United States, Department of the Interior, VMNHS.

Cridland Planting Plan for Formal Gardens, 1916, from Vanderbilt Mansion National Historic Site, Formal Gardens Report, April, 1988, Rieley and Associates, Rudy J. Favretti, Reuben M. Rainey,

prepared for U.S. Department of the Interior, National Park Service, The North Atlantic Regional Office.

The Formal Gardens in 1934, from Vanderbilt Mansion National Historic Site, Formal Gardens Report, April, 1988, Rieley and Associates, Rudy J. Favretti, Reuben M. Rainey, prepared for U.S. Department of the Interior, National Park Service, the North Atlantic Regional Office.

Axonometric of Formal Gardens, from Vanderbilt Mansion National Historic Site, Formal Gardens Report, April, 1988, Rieley and Associates, Rudy J. Favretti, Reuben M. Rainey, prepared for U.S. Department of the Interior, National Park Service, the North Atlantic Regional Office.

PHOTOGRAPHS

Langdon era greenhouses and Twin Palm Houses, ca. 1906, VMNHS, no. V-1269.

Twin Rose greenhouses and bedding gardens, taken after 1908, nd. E. Van Osdell, VMNHS, no. V-128.

Entry to the Formal Gardens between the Palm Houses, nd. ca. 1930, A. Knauss, VMNHS, V-93.

View of the Carnation Houses in the Formal Gardens, nd., Van Tassell, VMNHS, V-2500.

"Carnation House, Bldg. #11, (Removed by the NPS in 1954), View from the south looking north", nd. VMNHS.

Second terrace with bedding garden outlines, late fall view, nd., VMNHS, V-3118.

Second terrace with bedding gardens in full bloom, showing Gardener's Cottage and Carnation House, post-1908, VMNHS, no. V-103.

Fourth terrace showing arabesque beds planted to annuals, Rose House, Palm Houses, and Carnation House all in view, post-1908, VMNHS, no. V-615.

Fourth terrace arabesque beds showing early summer plantings of annuals with trimmed arborvitae hedge and vine covered arbors and walls in background, ca. 193?, Knauss, VMNHS, no. V-86.

Italian Garden view to North Pergola without vine cover, trimmed cedar hedge, detailed plantings and pool with water lilies, ca. 1904, VMNHS, no. V-673.

Italian Garden view to North Pergola with vine cover and trimmed cedar hedges, ca. 1910, VMNHS, no. V-749.

Italian Garden showing vine covered trellis and plantings at pool, ca. 1916, VMNHS, no. V-674.

Italian Garden vine covered Pool Pergola with mass iris foliage, ca. 1916, VMNHS, no. V-750.

View of central walk and Pool Pergola of the Italian Garden, ca. 1918-1922, VMNHS, no. V-996.

Italian Garden overlooking pool with evergreens maturing, ca. 1918-1922, no. V-0806929.

Rose Garden with Frog Fountain in foreground, shows garden beds and central steps, ca. 1918, VMNHS, no. 706.

Rose Garden view from central path at lower level looking east toward Garden Pavilion, note roses in beds and pair of urns, ca. 1918, VMNHS, no. V-722-92.

Rose Garden looking east to Pavilion from Meehan steps, note upper bed planted to canna, low masses in other beds, brick piers and fence at perimeter, Orpheus statue in pool,vine-covered Pavilion, ca. 1920s, VMNHS, no. V-080692.

Rose Garden looking west at upper level with George Aird, relative of greenhouse worker, note roses in foreground beds, and blooming roses against wall, extensive vine cover on piers and iron work in Italian Garden above, ca. 1930s, VMNHS, no. V-1029.

Rose Garden early summer view with some roses and edge shrubs in bloom, roses also in upper beds, partial vine cover on Pavilion, ca. 1920s, VMNHS, no. V-587.

Rose Garden fall view with late bloom on roses, upper bed in foreground is cleared and raked, Orpheus fountain covered, vines removed from Pavilion, ca. 1940, photograph by Shears, VMNHS, no.V-672.

Fountain Garden showing detail at Pool, closeup of pool beds with John Moore in Pool and two gardeners working, ca. 1930, VMNHS, no. V-107.

Italian Garden view south along central path to Pergola and Pool, note drain grates in foreground, conical evergreens with massed perennials in beds, post-1922, ca. 1930s, VMNHS, no.V-121.

Hedge enclosed walk with iron mesh vine arches along eastern edge of fourth terrace showing Ms. Emily Conklin., ca. 1939, photograph by Froats, VMNHS, no. V-747.

Italian Garden looking from Pool along central walk to redesigned North Pergola, note large evergreens near walk and lower hedge, specified in plan #430, 1922, along both edges, ca. post 1922, photograph by Newman, VMNHS, no. V-120.

Italian Garden view along central walk shows mass Delphinium plantings and vine covered North Pergola, ca. post 1922, taken by Knauss, VMNHS, no. V-118.

Cherry Tree Walk, Italian Garden, looking north shortly after construction of Cridland plan, shows dry stone wall, perennials, ground cover, tree and shrub plantings in linear, symmetrical design along central walk, ca. early 1930's, VMNHS, no. V-3117.

Cherry Tree Walk view south to Pergola and Pool shows beds flanking central walk with low perennials at base and vinca minor ground cover above wall, note trimmed hedge and mass Delphinium in bloom., ca. 1932-5, taken by Knauss, VMNHS, no. V-11.

Pool area gardens looking northeast across central walk shows pattern of perennial and bulb planting beds with intervening turf walks, ca. 1932-5, photograph by Knauss, VMNHS, no. V-109.

Pool area gardens looking southeast from central walk toward Rose Garden shows some perennials and bulb beds with brick piers, walls, and iron work covered with vines in background, ca. 1932-5, taken by Knauss, VMNHS, no. V-110.

Aerial Photograph of Formal Gardens and surrounding area dating to the late 1930's, note cutting garden to south of greenhouses, 1942, taken by New York Daily News published in Dr. Bard of Hyde Park, J. Brett Langstaff.

KEYS TO PLANTING PLANS

Revised Key to Plan No. 2011 for Fred'k W. Vanderbilt, Esq., Hyde Park, N.Y., April 4, 1911, Thomas Meehan and Sons, Mount Airy, Philadelphia, Landscape Architects.

Key to Planting Plan #133,Prepared for Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, N.Y., Upper Level of Upper Garden, February 17, 1916, Robert B. Cridland, Landscape Architect, Philadelphia, Pa.

Key to Portion of Planting Plan #133, Prepared for Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, New York., February 14, 1916, Robert B. Cridland, Landscape Architect, Philadelphia, Pa.

Key to Planting Plan # 133, Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, N.Y., Lower Level of Upper Garden, February 17, 1916, Robert B. Cridland, Landscape Architect, Philadelphia, Pa.

Key to Planting Plan #133, prepared for Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, N.Y., Portion near Upper Pool, 1916.

Key to Planting Plan #133, Prepared for Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, N.Y. Lower Level of Upper Garden, February 17, 1916, Robert B. Cridland, Landscape Architect, Philadelphia, PA.

Key to Planting Plan #133, Prepared for Frederick W. Vanderbilt, Esq., Hyde Park on Hudson, N.Y.,Upper Level of Upper Garden, February 17, 1916, Robert B. Cridland, Landscape Architect, Philadelphia, Pa.

Key to Planting Plan No.1-20, Prepared for Mr. Frederick W. Vanderbilt, Hyde Park, N.Y., September, 1934, Robert B. Cridland, Landscape Architect and Agnes L. Russell, Associate, Philadelphia.

Planting Plan for Mr. Frederick Vanderbilt, 1922

SPECIFICATIONS

"Specification for Mason Work under Glass Houses for F.W. Vanderbilt, Esq., Hyde Park, Dutchess Co., N.Y. The Work to be Carried Out In Accordance with Plan Furnished by John A. Scollay, 74 & 76 Myrtle Ave., Brooklyn, N.Y. Who Is To Superintend the Erection of the Work", nd., VMNHS Maintenance Files.

"Specification of the Construction and Materials Required in the Erection of Two Glass Houses for F.W. Vanderbilt, Esq., Hyde Park, Dutchess Co., N.Y. According to Plans Herewith Submitted and Our Usual Detail By John A. Scollay, Horticultural Architect and Builder and Hot Water Engineer, Brooklyn, N.Y.", July 26, 1897, VMNHS Maintenance Files.

"Specification for a Lean-To Greenhouse to be Erected for F.W. Vanderbilt, Esq., Hyde Park, N.Y., Submitted by Hitchings & Co., 233 Mercer St., New York", July 14, 1897, VMNHS Maintenance Files.

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