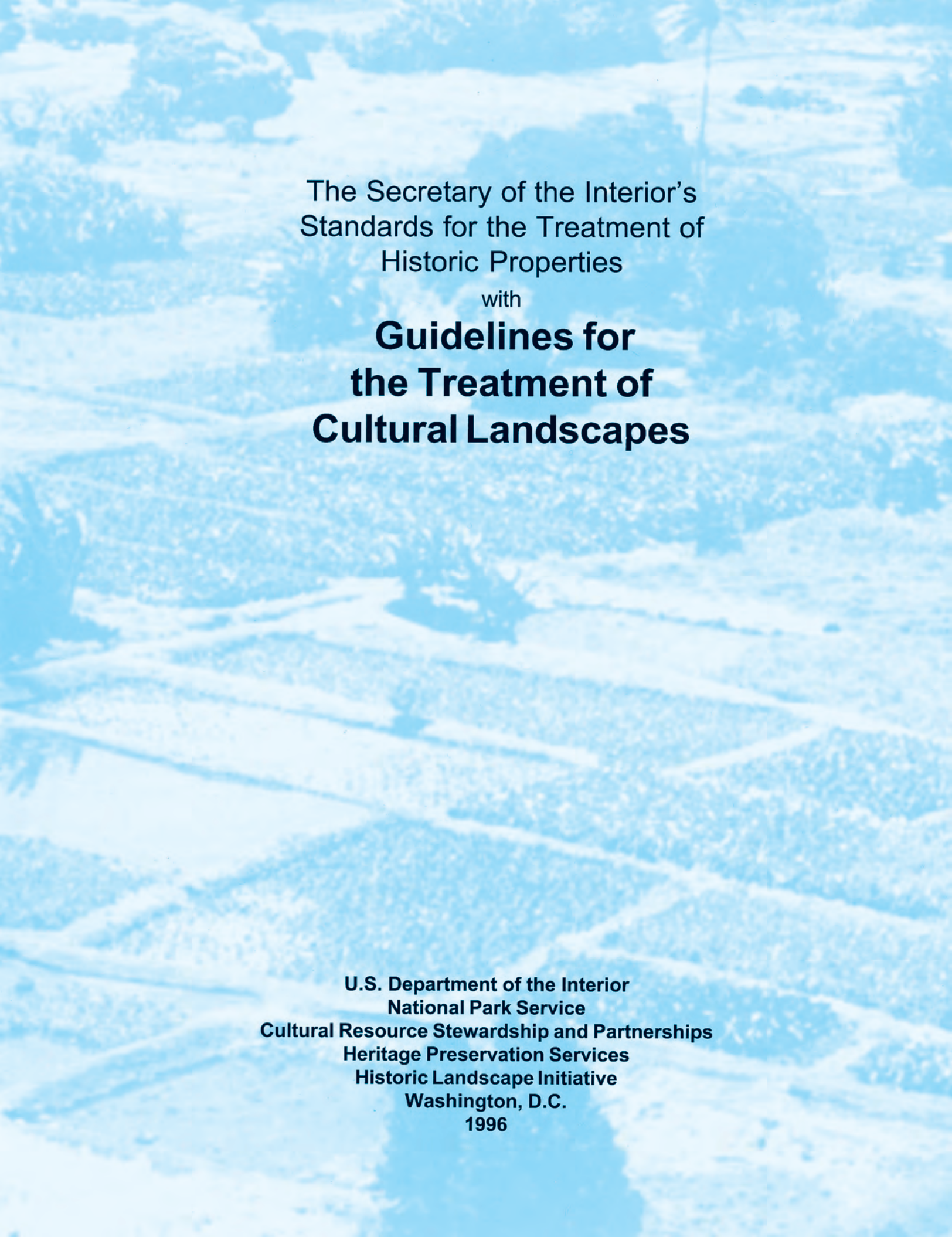


An aerial photograph of a terraced landscape, possibly a rice paddy field, with a single palm tree standing prominently in the upper right corner. The entire image is overlaid with a semi-transparent blue filter.

The Secretary of the Interior's
Standards for the Treatment of
Historic Properties

with

**Guidelines for
the Treatment of
Cultural Landscapes**

U.S. Department of the Interior
National Park Service
Cultural Resource Stewardship and Partnerships
Heritage Preservation Services
Historic Landscape Initiative
Washington, D.C.
1996

The Secretary of the Interior's
Standards for the Treatment of Historic Properties

***with* Guidelines for
the Treatment of
Cultural Landscapes**

Edited by Charles A. Birnbaum
with Christine Capella Peters

Designed by Charles A. Birnbaum
and Kathleen J. Madigan

U.S. Department of the Interior
National Park Service
Cultural Resource Stewardship and Partnerships
Heritage Preservation Services
Historic Landscape Initiative
Washington, D.C.
1996

MISSION

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally-owned public lands and natural and cultural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

THE GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

The Secretary of the Interior's Standards for the Treatment of Historic Properties and the *Guidelines for the Treatment of Cultural Landscapes* provide guidance to cultural landscape owners, stewards and managers, landscape architects, preservation planners, architects, engineers, contractors, and project reviewers prior to and during the planning and implementation of treatment projects.

In 1992, the first draft of the *Guidelines for the Treatment of Historic Landscapes* was disseminated for public review. This final document integrates comments received from the landscape architecture and preservation communities over the past few years.

TABLE OF CONTENTS

Acknowledgments v

Photo Credits vi

Introduction 1

The Secretary of the Interior's Standards for the Treatment of Historic Properties and
Guidelines for the Treatment of Cultural Landscapes 2

Preservation Planning and Treatment of Cultural Landscapes Defining
Landscape Terminology 4

Some Factors to Consider When Selecting An Appropriate Treatment for a Cultural Landscape Project 6
Using the Standards and Guidelines for the Treatment of Cultural Landscapes 14
Organization of the Guidelines 15

Standards for Preservation and Guidelines for Preserving Cultural Landscapes 17

Introduction 20

Identify, Retain, and Preserve 20

Stabilize and Protect Deteriorated Materials 21

Maintain Historic Materials 22

Repair Historic Materials 23

Replace In-Kind 23

Code and Other Considerations 24

Preservation Guidelines 25

Spatial Organization and Land Patterns 27

Topography 29

Vegetation 31

Circulation 35

Water Features 37

Structures, Furnishings and Objects 39

Accessibility Considerations 42

Health and Safety Considerations 43

Environmental Considerations 44

Energy Efficiency Considerations 45

Standards for Rehabilitation and Guidelines for Rehabilitating Cultural Landscapes 47

Introduction 50

Identify, Retain, and Preserve 50

Protect and Maintain Historic Features and Materials 51

Repair Deteriorated Historic Materials and Features 51

Replace Deteriorated Historic Materials and Features 52

Design for Replacement of Missing Historic Features 52

Alterations/Additions for the New Use 53

Code and Other Considerations 54

Rehabilitation Guidelines 55

Spatial Organization and Land Patterns 56

Topography 60

Vegetation 63

Circulation 68

Water Features 73

Structures, Furnishings and Objects	79
Accessibility Considerations	86
Health and Safety Considerations	87
Environmental Considerations	88
Energy Efficiency Considerations	88

Standards for Restoration and Guidelines for Restoring Cultural Landscapes 89

Introduction	92
Identify, Retain, and Preserve	92
Protect and Maintain Materials and Features	93
Repair Features and Materials	93
Replace Extensively Deteriorated Features	94
Remove Features from Other Historic Periods	96
Re-Create Missing Features from the Restoration Period	96
Code and Other Considerations	97

Restoration Guidelines 99

Spatial Organization and Land Patterns	100
Topography	105
Vegetation	108
Circulation	113
Water Features	116
Structures, Furnishings and Objects	118
Accessibility Considerations	122
Health and Safety Considerations	124
Environmental Considerations	125
Energy Efficiency Considerations	125

Standards for Reconstruction and Guidelines for Reconstructing Cultural Landscapes 127

Introduction	130
Research and Document Historical Significance	131
Code and Other Considerations	131

Reconstruction Guidelines 133

Spatial Organization and Land Patterns	134
Topography	134
Vegetation	136
Circulation	136
Water Features	137
Structures, Furnishings and Objects	137
Accessibility Considerations	137
Health and Safety Considerations	138
Environmental Considerations	138
Energy Efficiency Considerations	138

Appendices 139

Annotated List of Selected Readings	141
Directory of Organizations	146

ACKNOWLEDGMENTS

The Standards for the Treatment of Historic Properties, published in 1992, were reviewed by a broad cross-section of government entities and private sector organizations. *The Guidelines for the Treatment of Cultural Landscapes* were developed in cooperation with the Alliance for Historic Landscape Preservation and were also reviewed by individual State Historic Preservation Offices nationwide.

Several individuals have made significant contributions to the *Guidelines*. First, Kay D. Weeks, was instrumental in insuring consistency with the *Standards*, providing an indepth review for the entire document.

Lauren Meier who orchestrated the first draft of this document (1989-1992) established a project framework, an interested constituency (bringing in the Alliance and other groups) and project momentum. Christine Capella Peters of the New York State Office of Parks, Recreation and Historic Preservation not only participated in the Alliance working group, but dedicated two, one-week long intensive work sessions where a majority of the Guidelines were developed. Kathleen Madigan was instrumental in implementing the final production design and layout.

A number of Alliance members also made contributions over the past few years through their participation in the projects working group or in writing. Significant support was offered from Noel D. Vernon, Patricia M. O'Donnell, Ian J. W. Firth, George W. Curry, and Shary Page Berg. Additionally, Mary V. Hughes, Barbara Wyatt, Ellen Lipsey, Susan Turner, Julia Sniderman, Kathleen Maloney, Catherine Howett, Genevieve Keller, David Jacques, and Lynette Strangstad also provided assistance.

National Park Service (NPS) colleagues also reviewed a number of drafts. This group includes Ed Bearss, Randall Biallas, Blaine Cliver, Edward Drotos, Shaun Eyring, Anne Grimmer, Alan Hutchings, Lucy Lawliss, David Look, Linda McClelland, Darwina Neal, Robert R. Page, Susan Spain, Pat Tiller, Jan Townsend, and Sherda Williams. NPS colleagues also assisted with illustrating the document. Here contributions were made by Sherda Williams, Great Plains System Support Office; Marla McEnaney, Great Lakes System Support Office; Elliot Foulds, Lauren Meir and Nora Mitchell at the Olmsted Center for Landscape Preservation, Lucy Lawliss, Gulf Coast System Support Office; Cathy Gilbert, Columbia Cascade Cluster; Robert R. Page, Park Historic Structures and Cultural Landscapes; and, Paul Dolinsky, Robert Azola and Judy Collins of the Historic American Buildings Survey (HABS).

Outside of the NPS, several organizations and individuals have assisted with illustrating the document. This includes Pam Seager, Rancho Los Alamitos; Nancy LaCola, Downing Park Planning Committee; Fran Beatty, Boston Parks & Recreation; Joe DiMatteo, Prospect Park Alliance; Mary Hughes, University of Virginia; John Karel, Tower Grove Park; Sara Miller, Central Park Conservancy; Julia Sniderman, Chicago Park District; Elizabeth Anderson, County of Maui Planning Department, Dan Mariott, National Trust for Historic Preservation; Shereen Minvielle, Shadows-on-the Teche; Don and Carolyn Etter; Marion Pressley, Pressley Associates; Dale Jaeger, The Jaeger Group; Peggy Nelson, Landscape Systems; Liz Viza, The Halvorson Company; George Atta, Group 70; Douglas Reed Landscape Architecture; and Patricia O'Donnell, Landscapes. The photographer Carol Betsch also provided several photos.

Finally, this document is dedicated to H. Ward Jandl, who recognized the importance of creating guidelines for landscapes, and thus the impetus for a national program.

Charles A. Birnbaum, FASLA
Coordinator, Historic Landscape Initiative

PHOTO CREDITS

Pages 1-3	Meadow (Carol Betsch)
Page 6	Canyon de Chelly National Monument, Chinle, Arizona (author, 1996)
Page 7	"Fairsted," Frederick Law Olmsted National Historic Site, Brookline, Massachusetts (Frederick Law Olmsted National Historic Site [FLONHS]); Piper Farm at Antietam Battlefield, Antietam, Maryland (author, 1994)
Page 8	Rancho Los Alamitos, California (Rancho Los Alamitos Foundation); Acoma Pueblo, Casa Blanca, New Mexico (author, 1996); Chaco Culture National Historical Park, Bloomfield, New Mexico (courtesy NPS)
Page 10	Emerald Necklace Parks, Boston, Massachusetts (author, 1989); Nez Perce National Historical Park, Spalding, Indiana (courtesy NPS)
Page 11	Lyndhurst, Tarrytown, New York (Lyndhurst archives and author, 1990)
Page 12	City Hall, San Francisco, California (author, 1993)
Page 13	City Square, Sausalito, California (author, 1993)
Pages 17-19	Ferns (author 1988)
Page 20	George Washington Memorial Parkway, Washington D.C. (Historic American Buildings Survey [HABS], 1994)
Page 21	Ke'anae, County of Maui, Hawaii (author, 1995); The Alamo, San Antonio, Texas (author, 1993)
Page 22	Irwin Miller House, Columbus, Indiana (author, 1995); Hokenson Brothers Fishery, Apostle Islands National Seashore, Wisconsin (courtesy NPS)
Page 23	Forsyth Park, Savannah, Georgia (author, 1996); Lafayette Square, St. Louis, Missouri (author, 1994)
Page 24	Mission San Jose, San Antonio, Texas (author, 1994)
Page 26	George Washington Memorial Parkway, Washington, DC (HABS, 1994)
Page 27	Civic Center, Denver, Colorado (author, 1993)
Page 28	Prescribed burning in a National Park, Arkansas (NPS, 1996)
Page 29	Drayton Hall, Charleston, South Carolina (author, 1994)
Page 30	Fort Fisher, Petersburg, North Carolina (NPS, 1989)
Page 31	Vanderbilt Mansion National Historic Site, Hyde Park, New York (LANDSCAPES, 1992); Arkansas Post National Memorial (courtesy NPS)
Page 33	Tree Stabilization, Warsaw, Poland (author, 1994); Pampas grass, 1858 engraving and contemporary photo (author, 1994)
Page 34	Jamaica Pond Park, Boston, Massachusetts (FLONHS and author, 1990)
Page 36	Star Lake, Lower Onondaga Park, Syracuse, New York (Onondaga County Historical Society and author, 1989)
Page 38	Historic Irrigation system, San Antonio, Texas (author, 1992) Kehlbeck Farmstead, Cass County, Nebraska (National Register Files)
Page 40	Council Ring at the Clearing, Ellison Bay, Wisconsin (author, 1993)
Page 41	Island Bridge, Riverway, Boston, Massachusetts (author, 1988, 1994)
Page 42	Accessibility at Houghton Chapel, Wellesley College, Massachusetts (Carol R. Johnson Associates, Inc.)
Pages 47-49	Pa hoi hoi Lava (Cheryl Wagner)
Page 50	1862 U.S. Army Map section, Corinth, Mississippi. (NPS archive) Century-Old Oak, Hudson River Valley, New York (author, 1991)
Page 51	Corral Fences, Hubbell Trading Post NHS, Ganado, Arizona; Birch Allee, Stan Hywet Hall, Akron, Ohio (author, 1996, 1994)
Page 52	Replacement Fences, Martin Luther King, Jr., National Historic Site, Atlanta, Georgia. (courtesy NPS); Replacement Hedges, Perry's Victory and International Peace Memorial, Put-in-Bay, Ohio (courtesy NPS); Shelter, Genessee Valley Park, Rochester, New York (LANDSCAPES)
Page 53	Central Park with Playground, New York (Central Park Conservancy)
Page 54	Accessibility at Hunnewell Visitor's Center, Arnold Arboretum, Jamaica Plain, Massachusetts (Arnold Arboretum Collection, author 1994)
Page 66	Colonial Parkway, Virginia (HABS)
Page 67	Mount Vernon, Virginia (photos by Jack Boucher for HABS)
Page 58	Hubbell Trading Post National Historic Site, Ganado, Arizona (Landscape Systems/Peggy Nelson)
Page 59	Waterford, Virginia (Waterford Foundation)

Page 60	Taro "Io'i", Ke'anae peninsula Maui, Hawaii (Group 70)
Page 61	Central Burying Ground (1754), Boston Common, Boston, Massachusetts (Boston Parks & Recreation, Historic Burying Ground Initiative)
Page 63	Melrose National Historical Park in Natchez, Mississippi (HABS)
Page 64	CCC-era headquarters complex, Scotts Bluff National Monument, Gering, Nebraska (NPS staff, 1938 and 1995)
Page 65	Tower Grove Park, St. Louis, Missouri (Tower Grove Park)
Page 68	Modern highway, which approximates the Oregon Trail approach to Mitchell Pass (courtesy NPS)
Page 69	Herbert Hoover National Historic Site, West Branch, Iowa (Land and Community Associates)
Page 67	Star-Fort, Ninety-Six Battlefield, Ninety-Six, South Carolina (courtesy NPS)
Page 70	Skyline Drive, Shenandoah National Park, Virginia (courtesy NPS and Paul Daniel Mariott)
Page 71	Stones River National Battlefield, Murfreesboro, Tennessee (courtesy NPS)
Page 72	Stones River National Battlefield, Murfreesboro, Tennessee (courtesy NPS)
Page 73	Sawmill Dam, Ozark National Scenic Riverways, Van Buren, Missouri (courtesy NPS)
Page 74	Wading Pool, Martin Luther King Park, Buffalo, New York (LANDSCAPES)
Page 75	Jamaica Pond Park, Jamaica Plain, Massachusetts (Pressley Associates and Boston Parks & Recreation)
Pages 76-77	South Falls, Columbus Park, Chicago, Illinois (Chicago Park District Archives, ca. 1938 and author, 1995)
Page 78	Polly Pond, Downing Park, Newburgh, New York (LANDSCAPES and Downing Park Planning Committee)
Page 79	Magnolia Cemetery, Charleston, South Carolina (author, 1994)
Page 80	Hay Rake, Ozark National Scenic Riverways (courtesy NPS); Historic Light, Washington Park, Chicago, Illinois (author, 1992); Summer Cottage, St. Croix National Scenic Riverway. (courtesy NPS)
Page 81	George Washington Parkway, Washington D.C. (HABS)
Page 82	"Eagle's Nest," Centerport, Long Island; Wayside Station, Zone", Point Reyes, California; Trail Marker, Asheville, North Carolina; Information Kiosk, Central Park, New York, New York. (author)
Page 83	Franklin Court and Welcome Park, Philadelphia, Pennsylvania. (VENTURI)
Page 84	Dorchester North Burying Ground, Dorchester, Massachusetts; (author, 1993 and Boston Parks)
Page 85	Long Meadow, Prospect Park, Brooklyn, New York (Prospect Park Alliance)
Page 87	Civic Center, Denver, Colorado (author, 1993)
Pages 89-91	Stone Wall (author, 1990)
Page 92	Vanderbilt Estate, Hyde Park, New York (LANDSCAPES)
Page 93	Commemorative Marker, Robidoux Pass, Oregon Trail, Scotts Bluff National Monument, Nebraska (courtesy NPS)
Page 94	Historic Wall, Stan Hywet Hall, Akron, Ohio (author, 1993)
Page 95	Music Pavilion, Tower Grove Park, St. Louis, Missouri (Tower Grove Park)
Page 96	Demolition Plan, Tao House Courtyard, Eugene O'Neill National Historic Site, Danville, California (courtesy NPS)
Page 97	Footbridge, Central Park, New York (Central Park Conservancy); J. L. Bush Storehouse Property, Greenwich, Connecticut (LANDSCAPES)
Page 100	Vanderbilt Mansion National Historic Site, Hyde Park, New York (Vanderbilt Mansion National Historic Site and LANDSCAPES)
Page 101	Stan Hywet Hall, Akron, Ohio (Stan Hywet Hall Foundation)
Pages 102-103	Frederick Law Olmsted National Historic Site, Brookline, Massachusetts (courtesy NPS)
Page 104	Meadow, Franklin Park, Boston, Massachusetts (FLONHS and Boston Parks & Recreation)
Page 105	Central Burying Ground, Boston, Massachusetts (Boston Parks and Recreation)
Pages 106-107	Little Round Top, Gettysburg National Military Park, Pennsylvania (courtesy NPS)
Page 108	Reynolda Gardens, Wake Forest University, Winston-Salem, North Carolina (The Jaeger Group)
Page 109	Mature American Elm and Japanese Zelkova (author, 1994)
Page 110	Estate Drive, Apple Orchard, Stan Hywet Hall, Akron, Ohio (Douglas Reed)
Pages 111-112	Rancho Los Alamitos, Long Beach, California (Rancho Los Alamitos Foundation)
Page 113	Mount Auburn Cemetery, Cambridge, Massachusetts (The Halvorson Company)
Page 115	Garden Walks, Shadows-on-the-Teche, New Iberia, Louisiana (Shadows-on-the-Teche)
Page 117	Archeology at Joslyn Castle, Omaha, Nebraska (Mary Hughes)

Page 119	Garden Gate, Weir Farm National Historic Site, Wilton, Connecticut (courtesy NPS and Weir Farm National Historic Site)
Page 120	Historic Signs, Mount Auburn Cemetery, Cambridge, Massachusetts
Page 121	Historic Street Lights, Speer Boulevard and Downtown, Denver, Colorado (Western History Department, Denver Public Library, Foster and Marshall)
Page 122	Accessibility at Eugene O'Neill National Historic Site, Danville, California (author, 1994)
Page 123	Accessibility at Frederick Law Olmsted National Historic Site, Brookline, Massachusetts (courtesy NPS)
Pages 127-129	Conifer Grove (author 1990)
Page 130	South Terrace Garden, Monticello, Charlottesville, Virginia (Thomas Jefferson Memorial Foundation and author, 1996)
Pages 135-136	Privy Garden Hampton Court, U.K. (author, 1994 and 1995)
Pages 139-140	Garden Statue (Carol Betsch)

Introduction



The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes

The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes provide guidance to cultural landscape owners, stewards and managers, landscape architects, preservation planners, architects, contractors, and project reviewers prior to and during the planning and implementation of project work.

The Secretary of the Interior is responsible for establishing professional standards and providing advice on the preservation of cultural resources listed in or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects were developed in 1976. They consisted of seven sets of standards for the acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of historic buildings.

Since their publication in 1976, the Secretary's Standards have been used by State Historic Preservation Officers and the National Park Service to ensure that projects receiving federal money or tax benefits were reviewed in a consistent manner nationwide. The principles embodied in the Standards have also been adopted by hundreds of preservation commissions across the country in local design guidelines.

In 1992, the Standards were revised so that they could be applied to *all* historic resource types included in the National Register of Historic Places—buildings, structures, sites, objects, districts, and landscapes. The revised Standards were reduced to four sets by incorporating protection and stabilization into preservation, and by eliminating acquisition, which is no longer considered a treatment. Re-titled *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, this new, modified version addresses four treatments: preservation, rehabilitation, restoration, and reconstruction. The *Guidelines for the Treatment of Cultural Landscapes* illustrate how to apply these four treatments to cultural landscapes in a way that meets the Standards.

Of the four, Preservation standards require retention of the greatest amount of historic fabric, including the landscape's historic form, features, and details as they have evolved over time. *Rehabilitation* standards acknowledge the need to alter or add to a cultural landscape to meet continuing or new uses while retaining the landscape's historic character. *Restoration* standards allow for the depiction of a landscape at a particular time in its history by preserving materials from the period of significance and removing materials from other periods. *Reconstruction* standards establish a framework for re-creating a vanished or non-surviving landscape with new materials, primarily for interpretive purposes.

The *Secretary of the Interior's Standards for the Treatment of Historic Properties*, revised in 1992, were codified as 36 CFR Part 68 in the 12 July 1995 *Federal Register* (Vol. 60, No. 133) with an "effective" date of 11 August 1995. The revision replaces the 1978 and 1983 versions of 36 CFR 68 entitled *The Secretary of the Interior's Standards for Historic Preservation Projects*.

Preservation Planning and the Treatment of Cultural Landscapes

Careful planning prior to treatment can help prevent irrevocable damage to a cultural landscape. Professional techniques for identifying, documenting, and treating cultural landscapes have advanced over the past twenty-five years and are continually being refined. As described in the National Park Service publication, *Preservation Brief #36: Protecting Cultural Landscapes*, the preservation planning process for cultural landscapes should involve: historical research; inventory and documentation of existing conditions; site analysis and evaluation of integrity and significance; development of a cultural landscape preservation approach and treatment plan; development of a cultural landscape management plan and management philosophy; development of a strategy for ongoing maintenance; and, preparation of a record of treatment and future research recommendations.

In all treatments for cultural landscapes, the following general recommendations and comments apply:

☒ Before undertaking project work, research of a cultural landscape is essential. Research findings help to identify a landscape's historic period(s) of ownership, occupancy and development, and bring greater understanding of the associations that make them significant. Research findings also provide a foundation to make educated decisions for project treatment, and can guide management, maintenance, and interpretation. In addition, research findings may be useful in satisfying compliance reviews (e.g. Section 106 of the National Historic Preservation Act as amended).

☒ Although there is no single way to inventory a landscape, the goal of documentation is to provide a record of the landscape as it exists at the present time, thus providing a baseline from which to operate. All *component landscapes* and *features* (see definitions below) that contribute to the landscape's historic character should be recorded. The level of documentation needed depends on the nature and the significance of the resource. For example, plant material

Defining Landscape Terminology

Character-defining feature - a prominent or distinctive aspect, quality, or characteristic of a cultural landscape that contributes significantly to its physical character. Land use patterns, vegetation, furnishings, decorative details and materials may be such features.

Component landscape - A discrete portion of the landscape which can be further subdivided into individual features. The landscape unit may contribute to the significance of a National Register property, such as a farmstead in a rural historic district. In some cases, the landscape unit may be individually eligible for the National Register of Historic Places, such as a rose garden in a large urban park.

Cultural landscape - a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Ethnographic landscape - a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, sacred religious sites, and massive geological structures. Small plant communities, animals, subsistence and ceremonial grounds are often components.

Feature - The smallest element(s) of a landscape that contributes to the significance and that can be the subject of a treatment intervention. Examples include a woodlot, hedge, lawn, specimen plant, allee, house, meadow or open field, fence, wall, earthwork, pond or pool, bollard, orchard, or agricultural terrace.

Historic character - the sum of all visual aspects, features, materials, and spaces associated with a cultural landscape's history, i.e. the original configuration together with losses and later changes. These qualities are often referred to as character-defining.

documentation may ideally include botanical name or species, common name and size. To ensure full representation of existing herbaceous plants, care should be taken to document the landscape in different seasons. This level of research may most often be the ideal goal for smaller properties, but may prove impractical for large, vernacular landscapes.

☒ Assessing a landscape as a continuum through history is critical in assessing cultural and historic value. By analyzing the landscape, change over time -the chronological and physical “layers” of the landscape – can be understood. Based on analysis, individual features may be attributed to a discrete period of introduction, their presence or absence substantiated to a given date, and therefore the landscape’s significance and integrity evaluated. In addition, analysis allows the property to be viewed within the context of other cultural landscapes.

☒ In order for the landscape to be considered significant, character-defining features that convey its significance in history must not only be present, but they also must possess historic integrity. Location, setting, design, materials, workmanship, feeling and association should be considered in determining whether a landscape and its character-defining features possess historic integrity.

☒ Preservation planning for cultural landscapes involves a broad array of dynamic variables. Adopting comprehensive treatment and management plans, in concert with a preservation maintenance strategy, acknowledges a cultural landscape’s ever-changing nature and the interrelationship of treatment, management and maintenance.

Defining Landscape Terminology

Historic designed landscape - a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, engineer, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person, trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates.

Historic vernacular landscape - a landscape that evolved through use by the people whose activities or occupancy shaped it. Through social or cultural attitudes of an individual, a family, or a community, the landscape reflects the physical, biological, and cultural character of everyday lives. Function plays a significant role in vernacular landscapes. This can be a farm complex or a district of historic farmsteads along a river valley. Examples include rural historic districts and agricultural landscapes.

Historic site - a landscape significant for its association with a historic event, activity or person. Examples include battlefields and presidential homes and properties.

Integrity - the authenticity of a property’s historic identity, evinced by the survival of physical characteristics that existed during the property’s historic or prehistoric period. The seven qualities of integrity as defined by the National Register Program are location, setting, feeling, association, design, workmanship, and materials.

Significance - the meaning or value ascribed to a cultural landscape based on the National Register criteria for evaluation. It normally stems from a combination of association and integrity.

Treatment - work carried out to achieve a particular historic preservation goal.

Some Factors to Consider When Selecting An Appropriate Treatment for a Cultural Landscape Project

The Standards are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources. They cannot be used to make essential decisions about which contributing features of a cultural landscape should be retained and which can be changed. But once a specific *treatment* is selected, the Standards can provide the necessary philosophical framework for a consistent and holistic approach for a cultural landscape project.

A treatment is a physical intervention carried out to achieve a historic preservation goal -- it cannot be considered in a vacuum. There are many practical and philosophical variables that influence the selection of a treatment for a landscape (see discussion, pages 4-8). These include, but are not limited to, the extent of historic documentation, existing physical conditions, historic value, proposed use, long and short term objectives, operational and code requirements (e.g. accessibility, fire, security) and anticipated capital improvement, staffing and maintenance costs. The impact of the treatment on any significant archeological and natural resources should also be considered in this decision making process. Therefore, it is necessary to consider a broad array of dynamic and interrelated variables in selecting a treatment for a cultural landscape preservation project (see sidebar opposite titled, "Preservation Planning and the Treatment of Cultural Landscapes.")

For some cultural landscapes, especially those that are best considered ethnographic or heritage landscapes, these Guidelines may not apply. However, if people working with these properties decide that community coherence may be affected by physical place and space—or if there is potential for loss of landscape character whose significance is rooted in the community's activities and processes (or other aspects of its history)—this guide may be of service.

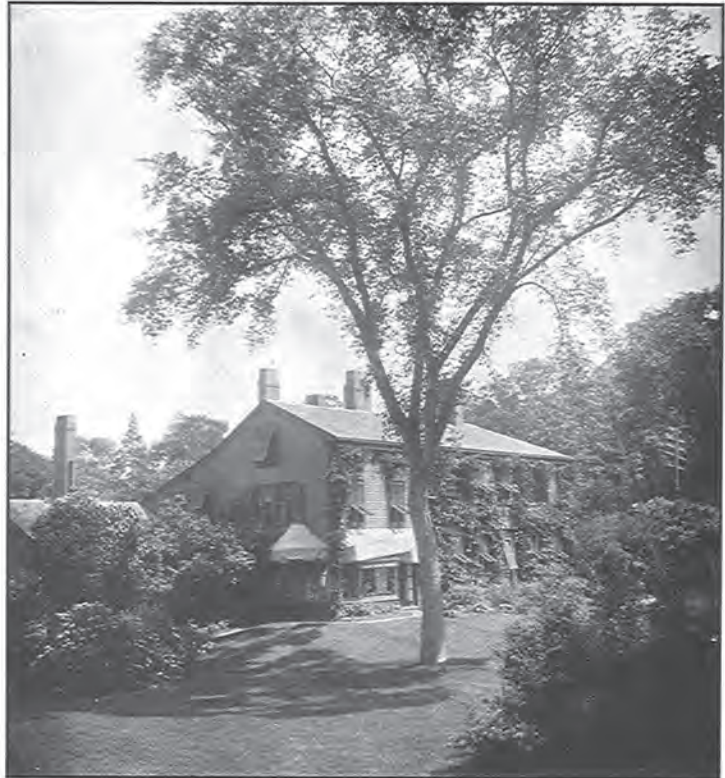
✎ **Change and Continuity.** There is a balance between change and continuity in all cultural resources. Change is inherent in cultural landscapes; it results from both natural processes and human activities. Sometimes that change is subtle, barely perceptible as with the geomorphological effects on landform. At other times, it is strikingly obvious, as with vegetation, either in the cyclical changes of growth and reproduction or the progressive changes of plant competition and succession. This dynamic quality of all cultural landscapes is balanced by the continuity of distinctive characteristics retained over time. For, in spite of a landscape's constant change (or perhaps because of it), a property can still exhibit continuity of form, order, use, features, or materials. Preservation and rehabilitation treatments seek to secure and emphasize continuity while acknowledging change.



A remarkable record of human occupation exists at Canyon de Chelly National Monument in Chinle, Arizona—a vast mosaic of human activity through time, up to the present-day Navajo. Through preservation, an emphasis is placed on the cultural continuum, thus accommodating change and continuity. (author, 1996)

✧ **Relative Significance in History.** A cultural landscape may be a significant resource as a rare survivor or the work of an important landscape architect, horticulturist or designer. It may be the site of an important event or activity, reflect cultural traditions, or other patterns of settlement or land use. This significance may be derived from local, regional, or national importance. Cultural landscapes may be listed in the National Register of Historic Places individually or as contributing features in a historic district. In some instances, cultural landscapes may be designated National Historic Landmarks by the Secretary of the Interior for their exceptional significance in American history.

✧ **Integrity and Existing Physical Condition.** Prior to selecting a treatment, it is important to understand and evaluate the difference between integrity and existing conditions. Integrity is the authenticity of a cultural landscape's historic identity: it is the physical evidence of its significance. Existing conditions can be defined as the current physical state of the landscape's form, order, features and materials. For example, the integrity of an abandoned garden may be clear based on its extant form, features, and materials, but existing conditions may be poor, due to neglect or deferred maintenance.



"Fairsted," in Brookline, Massachusetts, was the home and office of Frederick Law Olmsted, Sr., his sons, and his successors from 1883-1979. Olmsted is widely recognized as the founder of the profession of landscape architecture in the United States. As a historic property, Olmsted's home and office, is associated with the firm's work, but it is also significant for its landscape which illustrates Olmsted's suburban design principles. The property was designated a National Historic Landmark on May 23, 1963. (FLONHS)



Before a treatment was selected for the Piper Farm at Antietam Battlefield, it was important to understand that the farm complex had a high level of integrity for its turn-of-the-century development. In fact, if the landscape was "restored" to the period of the battle, it would have resulted in the removal of this farm complex and subsequent loss of significant history. (author, 1994)

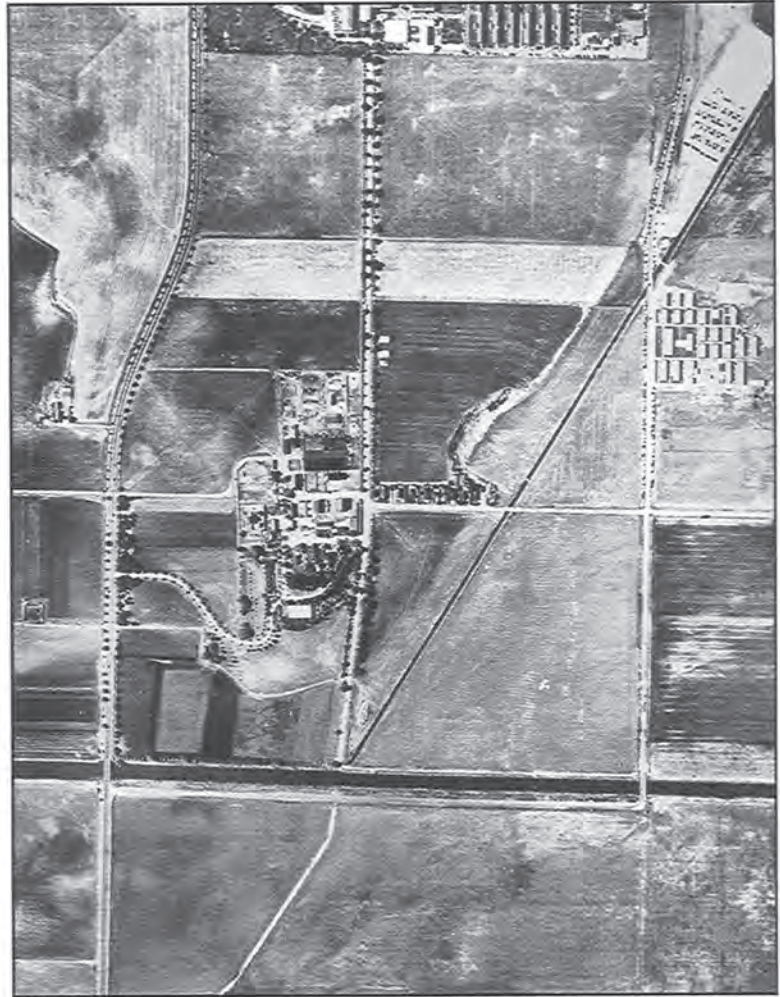
✧ **Geographical Context.** The surroundings of a cultural landscape, whether an urban neighborhood or rural farming area [see center top left and right], may contribute to its significance and its historic character and should be considered prior to treatment. The setting may contain *component landscapes or features* (see definitions, page 9) which fall within the property's historic boundaries. It also may be comprised of separate properties beyond the landscape's boundaries, and perhaps those of the National Register listing. The landscape context can include the overall pattern of the circulation networks, views and vistas into and out of the landscape, land use, natural features, clusters of structures, and division of properties.

✧ **Use.** Historic, current, and proposed use of the cultural landscape must be considered prior to treatment selection. Historic use is directly linked to its significance [bottom left], while current and proposed use(s) can affect integrity and existing conditions. Parameters may vary from one landscape to another. For example, in one agricultural landscape, continuation of the historic use can lead to changes in the physical form of a farm to accommodate new crops and equipment. In another agricultural property, new uses may be adapted within the landscape's existing form, order and features.

Two aerial photographs [center top left and right] of the changing geographical context at Rancho Los Alamitos taken a half century apart, from expansive farm lands to suburban subdivision— is eminently clear. This dramatic change to the property's context will have an effect on future planning and treatment recommendations. (Rancho Los Alamitos Foundation)

Acoma Pueblo, [opposite] located 60 miles west of Albuquerque, New Mexico, is one of the oldest, continuously inhabited villages in the United States, dating back over 1,000 years. Many of its historic uses are still evident in the village today as reflected by the traditional construction of adobe-masonry architecture, outside ovens and outhouses. (author, 1996)

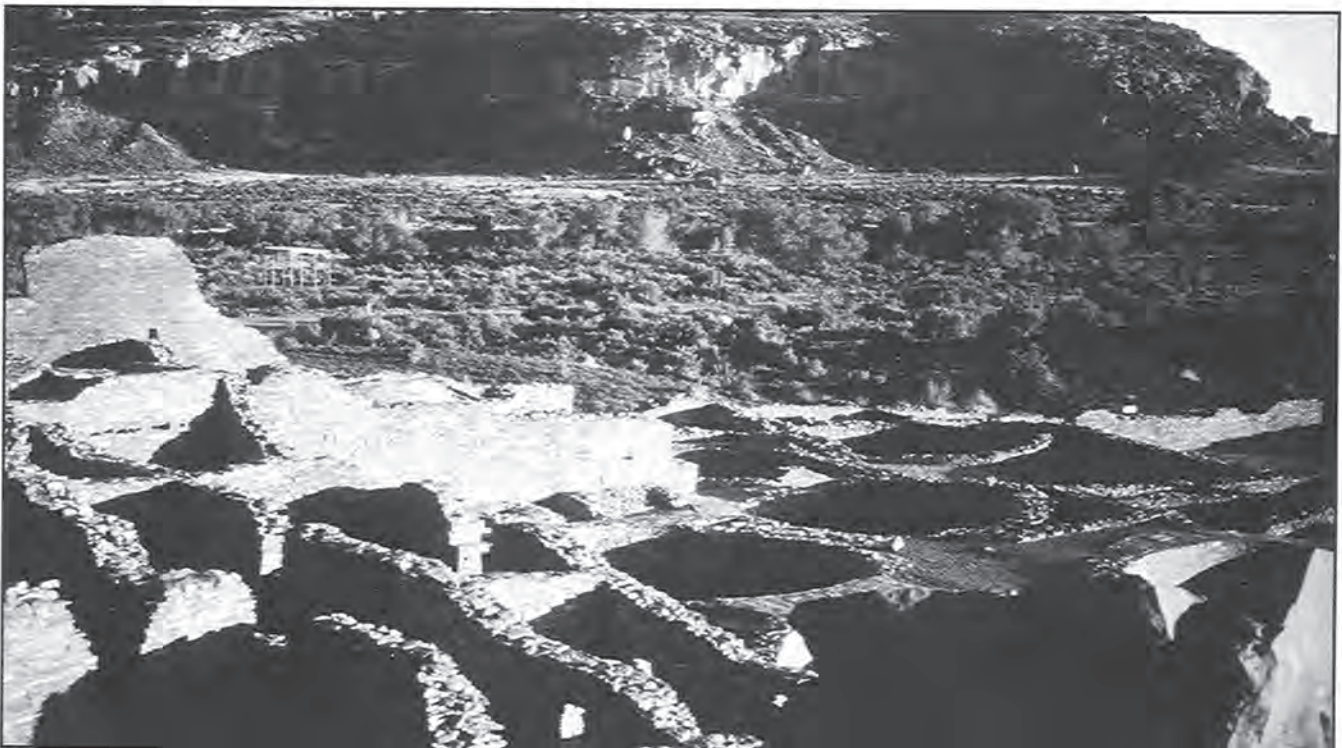
The core of this Anasazi complex at Chaco Culture National Historical Park, Bloomfield, New Mexico, [opposite page bottom] has been preserved and protected since it was designated a National Monument in 1907. (courtesy NPS)





✧ **Archeological Resources.** Prehistoric and historic archeological resources may be found in cultural landscapes above and below the ground [below] and even under water. Examples of prehistoric archeological resources include prehistoric mounds built by Native-Americans. Examples of historic archeological resources include remnants of buildings, cliff dwellings, and villages; or, features of a sunken garden, mining camp, or battlefield. These resources not only have historical value, but can also reveal significant information about a cultural landscape. The appropriate treatment of a cultural landscape includes the identification and preservation of significant archeological resources. Many landscape preservation projects include a site archeologist.

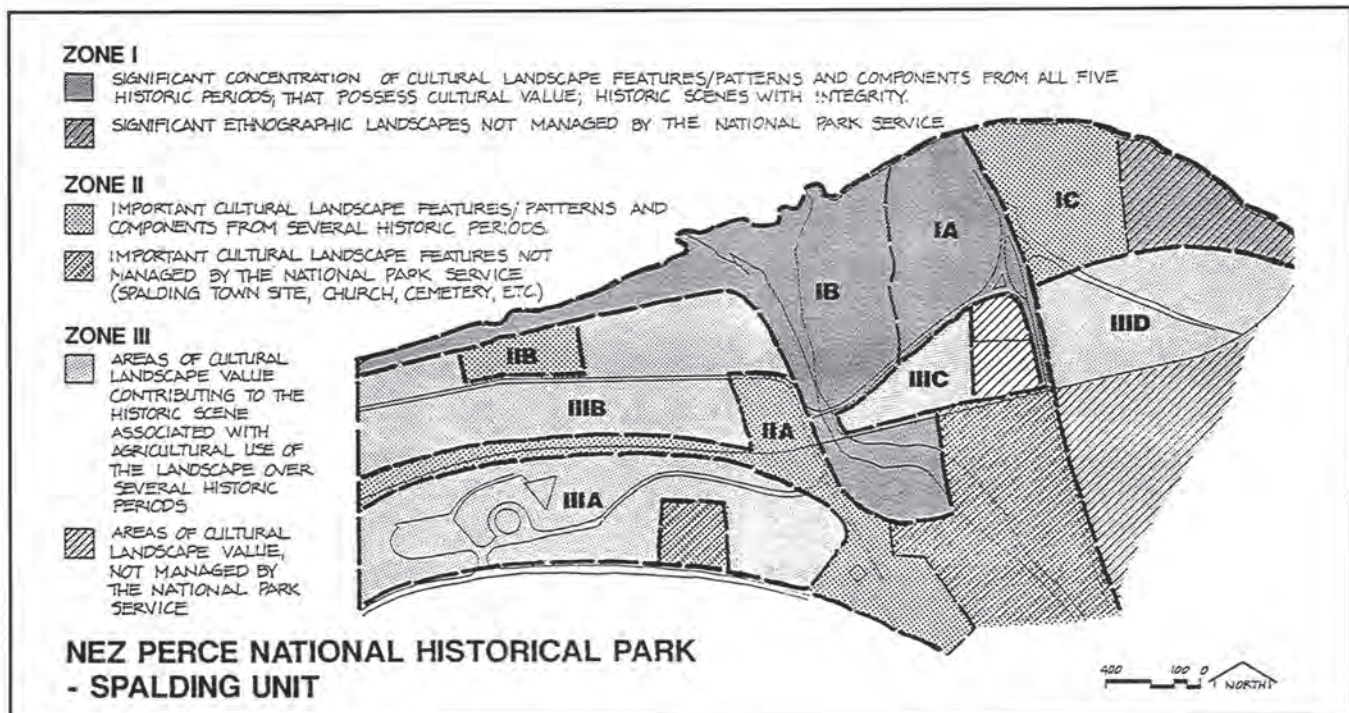
✧ **Natural Systems.** Cultural landscapes often derive their character from a human response to natural features and systems. The significance of these natural resources may be based on their cultural associations and from their inherent ecological values. Natural resources form natural systems that are interdependent on one another and which may extend well beyond the boundary of the historic



GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

property. For example, these systems can include geology, hydrology, plant and animal habitats, and climate. Some of these natural resources are particularly susceptible to disturbances caused by changes in landscape management. Many natural resources such as wetlands or rare species fall under local, state, and federal regulations which must be considered. Since natural resource protection is a specialized field distinct from cultural landscape preservation, a preservation planning team may want to include an expert in this area to address specific issues or resources found within a cultural landscape. Natural systems are an integral part of the cultural landscape and must be considered when selecting an appropriate treatment.

Invasive plant materials such as Phragmites [opposite] have overtaken sections of the water's edge along the Emerald Necklace Parks in Boston, Massachusetts diminishing the park's historic character. While developing a rehabilitation plan for the parks, both natural systems and cultural resource values are being considered. (author, 1989)



The management strategy for Nez Perce National Historical Park, Spalding, Indiana, divides the landscape into management zones that considers significant concentrations of cultural landscape features and patterns; representation from historic periods; and the degree of integrity. (courtesy NPS)



✧ **Management and Maintenance.**

Management strategies are long-term and comprehensive. They can be one of the means for implementing a landscape preservation plan. Maintenance tasks can be day-to-day, seasonal, or cyclical, as determined by management strategies. Although routine horticultural activities, such as mowing and weeding, or general grounds maintenance, such as re-laying pavement or curbs, may appear routine, such activities can cumulatively alter the character of a landscape. In contrast, well-conceived management and maintenance activities can sustain character and integrity over an extended period. Therefore, both the management and maintenance of cultural landscapes should be considered when selecting a treatment.

✧ **Interpretation.** Interpretation can help in understanding and “reading” the landscape. The tools and techniques of interpretation can include guided walks, self-guided brochures, computer-aided tours, exhibits, and wayside stations. Interpretive goals should compliment treatment selection, reflecting the landscape’s significance and historic character. A cultural landscape may possess varying levels of integrity or even differing periods of significance, both of which can result in a multi-faceted approach to interpretation. In some cases, interpretation and a sound interpretive strategy can inform decisions about how to treat a landscape.

The Lord and Burnham greenhouse at Lyndhurst in Tarrytown, New York, now stabilized and protected is interpreted as a ruin. The 1881-structure contributes to the landscape’s significance and its future treatment and management are an integral part of a current Historic Landscape Report. (Lyndhurst archives and author, 1990)

Special Requirements. Work that must be done to meet accessibility, health and safety, environmental protection or energy efficiency needs is usually not part of the overall process of protecting cultural landscapes; rather this work is assessed for its potential impact on the cultural landscape.

✎ **Accessibility Considerations.** It is often necessary to make modifications to cultural landscapes so that they will be in compliance with current accessibility code requirements. Accessibility to certain cultural landscapes is required by three specific Federal laws: the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973, and the Americans With Disabilities Act of 1990. Federal rules, regulations and standards have been developed which provide guidance on how to accomplish access to historic areas for people with disabilities. Work must be carefully planned and undertaken so that it does not result in the loss of character-defining features. The goal is to provide the highest level of access with the lowest level of impact on the integrity of the landscape.

✎ **Health and Safety Considerations.** In undertaking work on cultural landscapes, it is necessary to consider the impact that meeting current health and safety codes (for example, public health, life safety, fire safety, electrical, seismic, structural, and building codes) will have on character-defining features. For example, upgrading utility service, storm or sewer drainage systems requires trenching which can disturb soils, plants and archeological resources. Special coordination with the responsible code officials at the state, county, or municipal level may be required. Securing required permits and licenses is best



To comply with the ADA, an accessibility solution was provided for at San Francisco's City Hall. The design preserves the historic hedge along the building foundation, and conceals the new ramp behind a new hedgerow. When viewing the main building elevation, the symmetry of the facade and its foundation planting have been preserved. (author, 1993)



These unique historic lightposts at a small park in Sausalito, California, have been preserved. An integral part of the project work included a code-required upgrade and improvement of the fixtures for energy efficiency. (author, 1993)

accomplished early in project planning work. It is often necessary to look beyond the “letter” of code requirements to their underlying purpose; most modern codes allow for alternative approaches and reasonable variance to achieve compliance.

✧ **Environmental Protection Requirements.**

Many cultural landscapes are affected by requirements that address environmental issues. Legislation at the federal, state and municipal level have established rules and regulations for dealing with a variety of natural resources – including water, air, soil and wildlife. Work predicated on such legislation must be carefully planned and undertaken so that it does not result in the loss of a landscape’s character-defining features. Securing required permits and licenses should be considered early in project work, and special efforts should be made to coordinate with public agencies responsible for overseeing specific environmental concerns.

✧ **Energy Efficiency.** Some features of a cultural landscape, such as buildings, structures, vegetation and furnishings, can play an energy-conserving role. Therefore, prior to undertaking project work to achieve greater energy efficiency, the first step should always be to identify and evaluate existing historic features to assess their inherent energy conserving potential. If it is determined that such work is appropriate, then it needs to be carried out with particular care to insure that the landscape’s historic character is retained.

Using the Standards and Guidelines for the Treatment of Cultural Landscapes

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* are designed to be applied to **all** historic resource types included in the National Register of Historic Places—buildings, sites, structures, landscapes, districts, and objects. The *Guidelines for the Treatment of Cultural Landscapes* apply to a *specific* resource type: landscapes.

The *Guidelines* have been prepared to assist in applying the Standards to all project work involving the treatment of cultural landscapes; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. Therefore, it is recommended that the advice of qualified cultural landscape preservation professionals be obtained early in the planning stage of the project. Such professionals may have expertise in landscape architecture, landscape history, landscape archeology (ex. pollen analysis), forestry, horticulture (ex. pomology, natural resources, archeology, architecture, engineering (e.g. civil, structural, mechanical, traffic), cultural geography, wildlife, ecology, ethnography, interpretation, material and object conservation, landscape maintenance and management or other related fields. Historians are generally part of the specialized team, and bring expertise in the history of landscape architecture, architecture, art, industry, agriculture, society, etc. Project teams are often directed by a landscape architect with specific expertise in landscape preservation. This is not to say that all cultural landscape projects require a team representing all of these disciplines. It is recommended that professionals in disciplines relevant to the landscapes' inherent features be represented.

The *Guidelines* apply to cultural landscapes of all types, sizes, and materials. The *Guidelines* begin with an overview and description of the larger organizational elements of the landscape (spatial organization and land patterns), followed by those individual features (topography, vegetation, circulation, water features, structures, buildings, furnishings, and objects) that may contribute to the landscape's historic character. A graphic symbol has been assigned to each of these organizational elements and character-defining features to allow the reader to readily locate a feature at a glance. (See pages 18-19)

Each of the four sections of this publication is devoted to one of the four treatments: preservation, rehabilitation, restoration, and reconstruction. Each section contains one set of standards and accompanying guidelines that

can be used throughout the course of a project. The four sections begin with a definition of the treatment, followed by the treatment standards, and a brief explanation of the philosophical framework from which to make educated treatment decisions. The distinct goals that comprise each treatment standard, (for example, "Identify, Retain and Preserve Historic Materials,") are first discussed in narrative form, and are then amplified in parallel "**Recommended**" and "**Not Recommended**" examples that follow. The sections are illustrated by case-study examples of project work, which include before and after photographs, historic documentation, plans, sections, perspectives and other illustrative materials.

The actions and techniques that are consistent with the Secretary of the Interior's "Standards for the Treatment of Historic Properties" are listed in the "**Recommended**" column on the left; those which are inconsistent with the Standards are listed in the "**Not Recommended**" column on the right. These examples serve to illustrate a variety of applications to project work; not every possible alternative can be included. Therefore, the *Standards and Guidelines* narrative introducing each section should be used as a **model process** to follow when considering and evaluating a particular cultural landscape and its potential compatibility with a particular treatment.

Finally, the publication concludes with two appendices. The first contains an annotated bibliography of selected readings in the areas of preservation planning and treatment. The second provides a directory of national organizations that can assist in the protection of cultural landscapes.

Organization of the Guidelines

Cultural landscapes are composed of a collection of features which are *organized in space*. They include small-scale features such as individual fountains or statuary, as well as patterns of fields and forest which define the spatial character of the landscape. Individual features in the landscape should never be viewed in isolation, but in relationship to the landscape as a whole. Each situation may vary, and some features may often be more important than others. For example, circulation may be an important historic element in one landscape, while in another it may have little if any significance.

Overall, it is the arrangement and the interrelationship of these character-defining features as they existed during the period of significance that is most critical to consider prior to treatment. As such, landscape features should always be assessed as they relate to the property as a whole. Thus, spatial organization and land patterns are always listed first in each section of the Guidelines.

Organizational Elements of the Landscape



Spatial Organization and Land Patterns refers to the three-dimensional organization and patterns of spaces in a landscape, like the arrangement of rooms in a house. Spatial organization is created by the landscape's cultural and natural features. Some form visual links or barriers (such as fences and hedgerows); others create spaces and visual connections in the landscape (such as topography and open water). The organization of such features defines and creates spaces in the landscape and often is closely related to land use. Both the functional and visual relationship between spaces is integral to the historic character of a property. In addition, it is important to recognize that spatial relationships may change over time due to a variety of factors, including: environmental impacts (e.g. drought, flood), plant growth and succession, and changes in land use or technology.



Vegetation features may be individual plants, as in the case of a specimen tree, or groups of plants such as a hedge, allee, agricultural field, planting bed, or a naturally-occurring plant community or habitat. Vegetation includes evergreen or deciduous trees, shrubs, and ground covers, and both woody and herbaceous plants. Vegetation may derive its significance from historical associations, horticultural or genetic value, or aesthetic or functional qualities. It is a primary dynamic component of the landscape's character; therefore, the treatment of cultural landscapes must recognize the continual process of germination, growth, seasonal change, aging, decay, and death of plants. The character of individual plants is derived from habit, form, color, texture, bloom, fruit, fragrance, scale and context.

Character-Defining Features of the Landscape

There are many character-defining features that collectively contribute to the historic character of a cultural landscape. These are as follows:



Topography, the shape of the ground plane and its height or depth, is a character-defining feature of the landscape. Topography may occur naturally or as a result of human manipulation. For example, topographic features may contribute to the creation of outdoor spaces, serve a functional purpose, or provide visual interest.



Circulation features may include, roads, parkways, drives, trails, walks, paths, parking areas, and canals. Such features may occur individually or be linked to form networks or systems. The character of circulation features is defined by factors such as alignment, width, surface and edge treatment, grade, materials, and infrastructure.



Water features may be aesthetic as well as functional components of the landscape. They may be linked to the natural hydrologic system or may be fed artificially; their associated water supply, drainage, and mechanical systems are important components. Water features include fountains, pools, cascades, irrigation systems, ponds, lakes, streams, and aqueducts. The characteristics of water features

and reflective qualities; and associated plant and animal life, as well as water quality. Special consideration may be required due to the seasonal changes in water such as variations in water table, precipitation, and freezing.



Structures, site furnishings, and objects may contribute to a landscape's significance and historic character. Structures are non-habitable, constructed features, unlike buildings which have walls and roofs and are generally habitable. Structures may be significant individually or they may simply contribute to the historic character of the landscape. They may include walls, terraces, arbors, gazebos, follies, tennis courts, playground equipment, greenhouses, cold frames, steps, bridges, and dams. The placement and arrangement of buildings and structures are important to the character of the landscape; these guidelines emphasize the relationship between buildings, structures, and other features which comprise the historic landscape. For additional and specific guidance related to the treatment of historic buildings, please consult the *Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*.

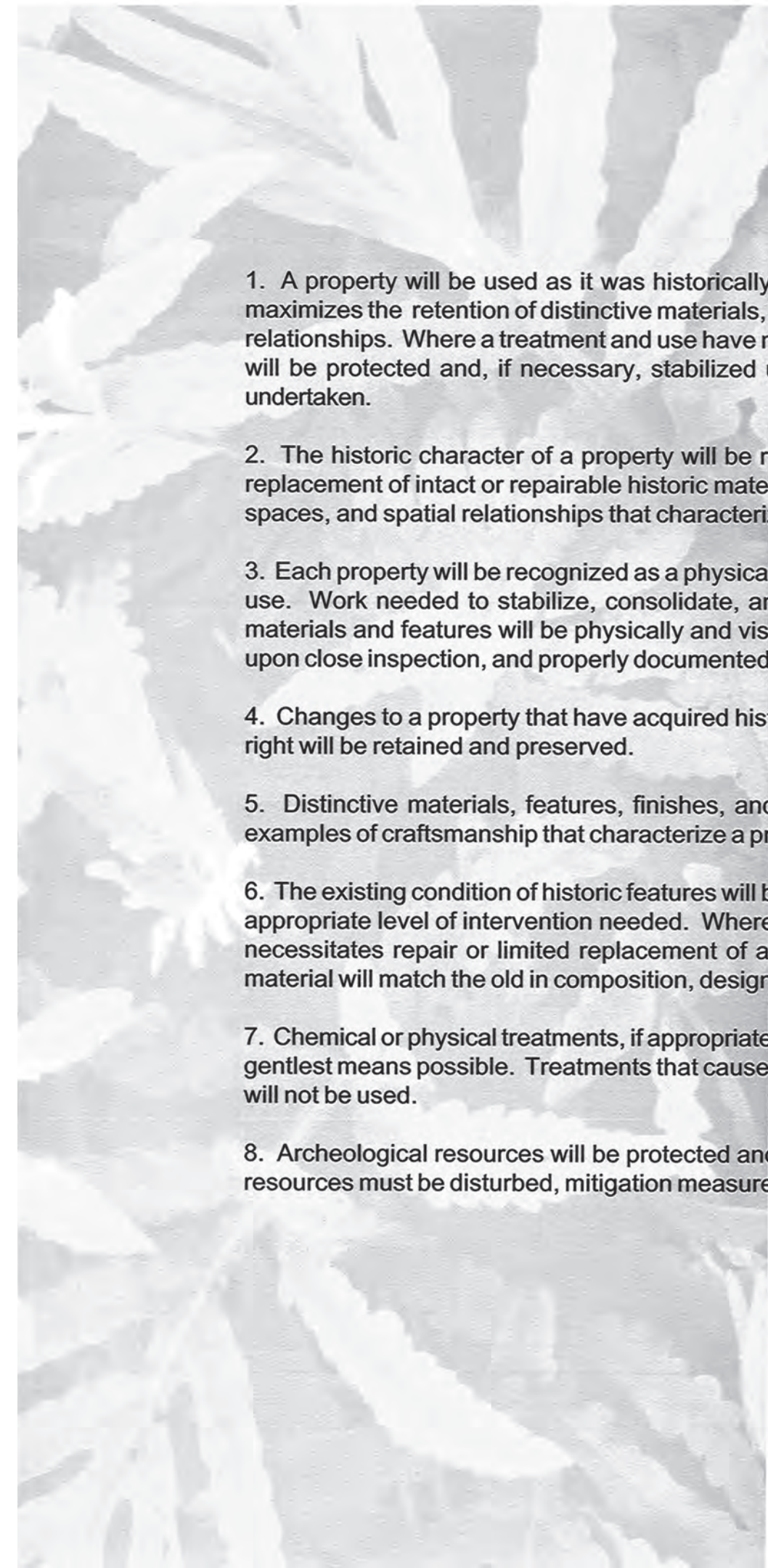
Site furnishings and objects generally are small-scale elements in the landscape that may be functional, decorative, or both. They can include benches, lights, signs, drinking fountains, trash receptacles, fences, tree grates, clocks, flagpoles, sculpture, monuments, memorials, planters, and urns. They may be movable, used seasonally, or permanently installed. Site furnishings and objects occur as singular items, in groups of similar or identical features, or as part of a system (e.g. signage). They may be designed or built for a specific site, available through a catalog, or created as vernacular pieces associated with a particular region or cultural group. They may be significant in their own right, for example, as works of art or as the work of an important designer.

Standards for Preservation & Guidelines for Preserving Cultural Landscapes

When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, preservation may be considered as a treatment. Prior to undertaking work, a documentation plan for preservation should be developed.

Standards for Preservation

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. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

- 
1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
 2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
 3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
 4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
 5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
 6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration necessitates repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
 7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
 8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

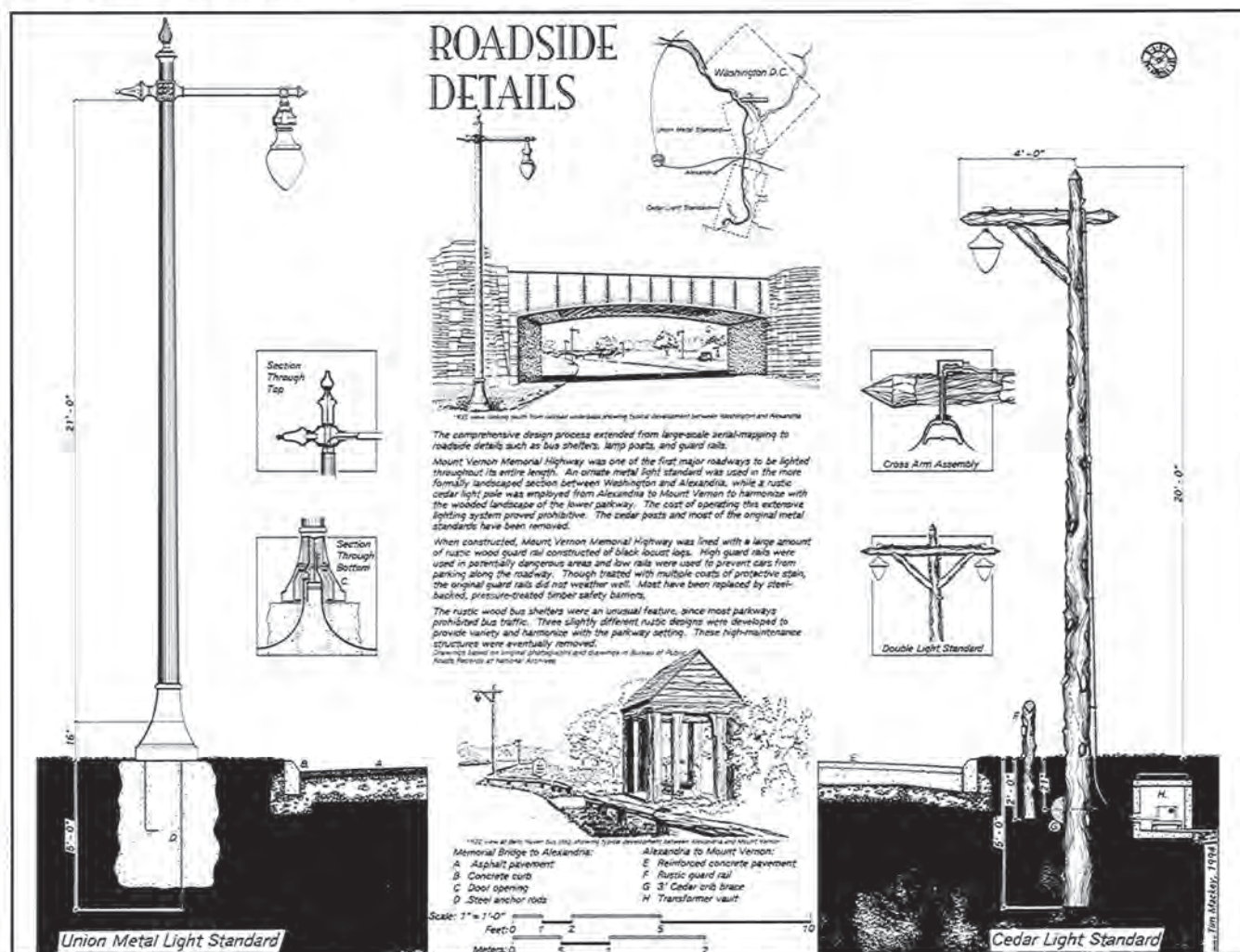
Introduction

In **Preservation**, the options for replacement are limited. The expressed goal of the **Standards for Preservation and Guidelines for Preserving Cultural Landscapes** is retention of the landscape's existing form, features and materials, provided that such actions will not result in a degraded landscape condition or threaten historic resources.

Preservation treatments may be as simple as basic maintenance of existing materials and features, such as the upkeep of a pedestrian path with a topcoat of crushed shells, or may be more involved; for example, preparing a cultural landscape report, undertaking laboratory testing (e.g. pollen analysis to identify past uses of the property or hiring conservators to perform sensitive work (e.g. repointing a serpentine garden wall). In all cases, protection, maintenance, and repair are emphasized, while replacement is minimized.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Preservation** begins with recommendations to identify the form and detailing of those features and materials that are important to the landscape's historic character and which must be retained in order to preserve that character. Therefore, guidance on **identifying, retaining, and preserving** character-defining features is always given first. The character of a cultural landscape is defined by its spatial organization and land patterns; features such as topography, vegetation, and circulation; and materials, such as an embedded aggregate pavement.



Historic road details were inventoried and documented along the George Washington Memorial Parkway where two light standards were used: an ornate metal post for more formally landscaped areas between Washington D.C. and Alexandria, Virginia, while a rustic cedar pole was employed from Alexandria to Mount Vernon to harmonize with its setting. (HABS, 1994)

☒ Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Features within a cultural landscape may need to be stabilized or protected through preliminary measures until additional work can be undertaken. **Stabilization** may include structural reinforcement of a rustic pergola, cabling of a tree, weatherization of a wooden garden bench, or correcting unsafe conditions. This work should always be carried out in such a manner that it detracts as little as possible from the cultural landscape's appearance. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment **Preservation**; it is equally applicable, if circumstances warrant, for the other treatments. **Protection** generally involves the least degree of intervention and is preparatory to other work. Such actions would include the installation of temporary fencing around significant plant materials or the electrical grounding of a tree.



To preserve a century-old oak, a stabilization rod [see left side of photo] was applied to a limb that overhangs a pedestrian walk at the Alamo, San Antonio, Texas. (author, 1993)



Taro patches are small hand-cultivated ponds, usually established as separate properties at the time of the Great Mahele or land division in the 1850s. In 1994, in an effort to protect this declining land use, the County of Maui, Hawaii, passed an ordinance granting tax relief to properties in taro production. (author, 1995)

✧ **Maintain Historic Features and Materials**

After identifying, protecting and stabilizing those features and materials that are important and must be retained, ***maintaining*** them becomes important. For example, maintenance includes treatments such as removing rust from an iron light standard, repointing a stone footbridge, re-application of protective coatings on a wooden patio deck; pruning to maintain the form of a hedge [see opposite]; monitoring the age, health and vigor of plant materials; or the cyclical cleaning of drainage inlets. As a foundation for these decisions, an overall evaluation of a cultural landscape's existing conditions should always begin at this level.



At the Irwin Miller House, Columbus, Indiana, the integrity of the original design by landscape architect Dan Kiley has been preserved by respecting the original design intent and maintaining the height of the hedges at 8'-6". (author, 1995)



A contract with a modern concessionaire maintains some active fishing at a former family-owned operation, the Hokenson Brothers Fishery in Apostle Islands National Seashore, Wisconsin. (courtesy NPS)

✧ Repair (Stabilize, Consolidate and Conserve) Historic Features and Materials

When the existing conditions of character-defining features and materials requires additional work, their **repair** is recommended. **Preservation** strives to retain the maximum amount of existing materials and features while utilizing as little new material as possible. Consequently, guidance for repairing a historic feature, such as vegetation, begins with the least degree of intervention possible, such as pruning a tree to lighten its canopy [see opposite]; or, in some cases, pruning back a shrub to the ground to encourage vigorous and healthy new growth. Similarly, within the treatment **Preservation**, portions of a historical structural system could be reinforced using contemporary materials. A capstone on a retaining wall, or a board in a wooden walkway, may be repaired with contemporary replacement parts. In all cases, work should be non-destructive, physically and visually compatible, and documented for future research.

✧ Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features

If repair by retention of an entire historic feature and/or its historic materials proves impossible, the next level of intervention involves the **limited replacement in kind** of portions of historic features when there are surviving prototypes. For example, this might involve **replacing** dead shrubs in a bank planting with same-genus, species/variety shrubs; or, replacing missing fence members to match surviving components. The replacement material should match the historic both physically and visually. In all cases, substitute materials are not appropriate in the treatment **Preservation**. However, exceptions would include hidden structural reinforcement, new mechanical system components (ex. adding irrigation), and the lack of availability or hazardous nature of original materials. For example, when matching plant materials are no longer commercially available, may not be hardy to a region, or, are highly disease prone, substitute plants may be recommended. In these cases, it is important that all new



This character-defining avenue of oaks in Forsyth Park, Savannah, Georgia, have been pruned to lighten their canopy, thus providing protection from severe storms. (author, 1996)



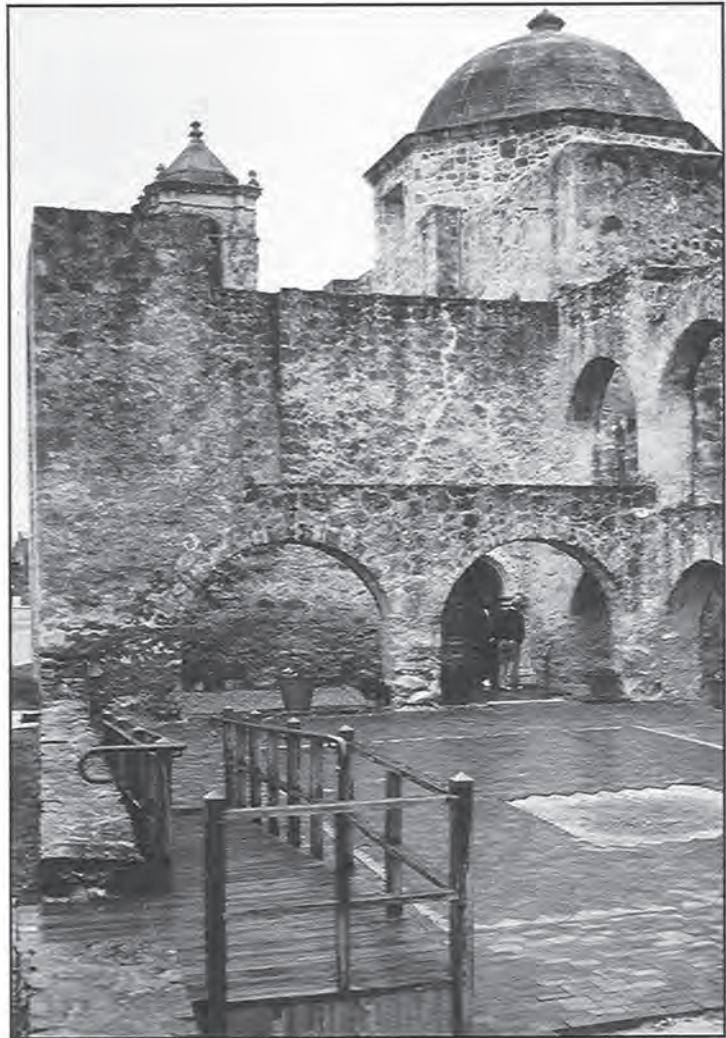
Castings were made to replace a limited number of lost finials along the perimeter fence of Lafayette Square, St. Louis, Missouri. (author, 1994)

material be non-destructive, identified, and properly documented for future research. Generally, in **Preservation**, substitute materials should be avoided, unless in-kind replacement is not possible.

⌘ **Accessibility Considerations/Health and Safety Considerations/Environmental Considerations and Energy Efficiency**

These sections of the **Preservation** guidance address work done to meet accessibility requirements; health and safety code; environmental requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the landscape's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.

This easily-reversible accessibility solution has been installed at Mission San Jose, San Antonio, Texas. (author, 1994)



Guidelines for Preserving Cultural Landscapes



PLANNED VIEWS

Early motor parkway designers faced the challenge of adapting traditional landscape architecture methods to the new speeds and scale produced by automobiles. The influence of romantic landscape painting and picturesque park design remained strong, but landscape compositions were simplified to be appreciated at higher speeds. The ability of automobiles to easily cover distances and climb hills gave parkway designers greater ability to seek out attractive scenery and dramatic viewpoints. GWMP's designers combined this new freedom with traditional design techniques to provide access to spectacular scenery and focus attention on dramatic views and symbolic vistas.

"The automobile has made necessary a broader treatment of views. Informal and unified views cannot be substituted for a fast-moving vehicle; simplicity and breadth are required. Different views must not follow too closely upon one another, and the openings and vistas through bordering woods or shrubbery must be all the greater with every aspect of the prospect and planting must be stronger because of the brief time in which it is seen."

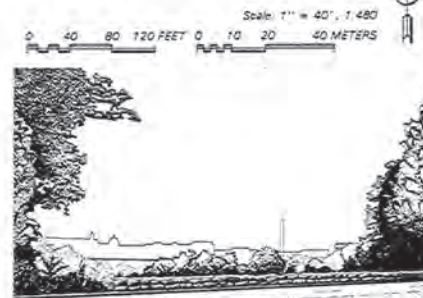
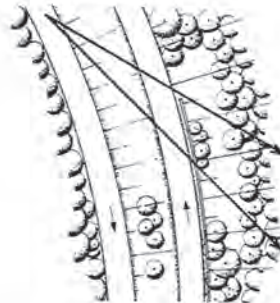
—Charles W. Eliot II, *Landscape Architecture Quarterly*, 1920



FRAMED VISTA 1

While pedestrians or carriage occupants could easily enjoy lateral views, motorists had to continually watch where they were going. As speeds increased, the emphasis on forward views became increasingly important. Parkway designers frequently combined a bend in the road with a break in the bordering vegetation to frame scenes off the main axis of the parkway. These "windows" were deliberately limited in width and number to avoid creating prolonged distractions.

GWMP designers employed this technique in dramatic fashion along the Potomac Palisades, where southbound motorists are treated to striking views of Washington, D.C.

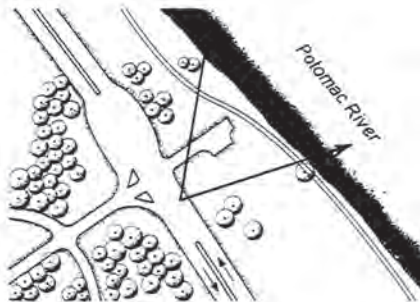


Potomac Palisades

PANORAMA 2

Parkway designers considered the relationship between the road and Washington's monumental core to be a matter of great aesthetic and symbolic significance. The approach to Washington was designed to provide a simple yet dignified transition between the informal parkway landscape and the grand spaces and neoclassical monumentality of the national capital.

Border plantings were kept to a minimum in order to provide expansive views across the Potomac River. The circulation system of Columbia Island was designed in part to slow down motorists so they would appreciate these views at a more dignified pace. When the parkway was originally built, the heights near National Airport provided another panoramic view of the city, but the roadway was moved to lower ground when the airport was constructed.

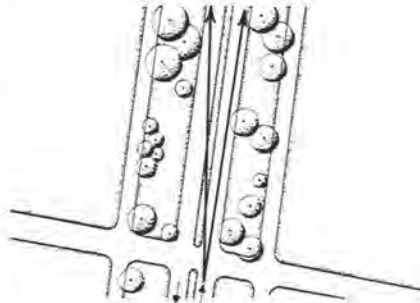


Columbia Island

AXIAL VIEW 3

The use of long straight avenues to direct attention to objects of interest was another classic design technique employed by parkway builders. This tactic was used sparingly, since the parkway was designed primarily as an informal landscape with continuous sweeping curvature and irregular naturalistic planting.

The most striking use of the classic axial view occurs just north of Alexandria, where one of the parkway's two long straight stretches points directly at the distant Washington Monument. Tall rows of trees on either side of the parkway help focus the motorist's gaze while screening out surrounding development. This "Monument Vista" provides the first suggestion of formal Washington. It was strongly emphasized in the original parkway plans.

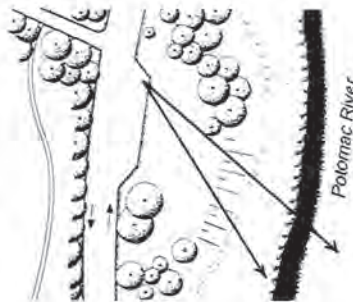


Washington Monument Vista, Alexandria

SCENIC PULLOUT 4

Small parking areas were provided at particularly scenic areas to provide motorists with an opportunity to safely pull off the roadway and enjoy the view. These scenic pullouts range in size from minor pavement widenings to extensively developed picnic areas complete with toilet facilities, tables, fireplaces, and interpretive signs explaining the adjacent historic and natural features.

The Hillcrest overlook provides an excellent view across the Potomac to Fort Washington, an imposing edifice that guarded the southern approach to Washington from 1808-1922.



Hillcrest Overlook



—Anna Marconi-Betka, 1994

Early parkway designers faced the challenge of adapting traditional landscape architecture methods to the new speeds and scale demanded by automobiles. The identification and protection of historic planned views along the George Washington Memorial Parkway is an integral part of the parkway documentation project. (HABS, 1994)

SPATIAL ORGANIZATION AND LAND PATTERNS
Identify, Retain, and Preserve Historic Materials and Features

Recommended

Identifying, retaining and preserving the existing spatial organization and land patterns of the landscape as they have evolved over time. Prior to beginning project work, documenting all features which define those relationships. This includes the size, configuration, proportion and relationship of component landscapes; the relationship of features to component landscapes; and the component landscapes themselves, such as a terrace garden, a farmyard, or forest-to-field patterns.

Not Recommended

Undertaking project work without understanding the effect on existing spatial organization and land patterns. For example, constructing a new structure without researching a property's agricultural and development history which may have created new spatial divisions.

**Stabilize and Protect Deteriorated Historic Materials
 and Features as a Preliminary Measure**

Stabilizing deteriorated features that define spatial organization and land patterns, such as a deteriorating structure that separates a courtyard garden and a kitchen garden; a hedgerow along a farm's perimeter which has an insect infestation; or a collapsing dry stone wall along a scenic parkway.

Failing to undertake stabilization measures for deteriorating or fragile features, such as a cluster of farm outbuildings or an industrial complex, causing the loss of spatial definition and land patterns.

Protecting spatial organization and land patterns that extend beyond a landscape. Utilizing preservation tools such as acquisition, zoning, scenic and conservation easements.

Allowing spatial organization and land patterns to be altered through incompatible development or neglect.



The addition of this war memorial to the Civic Center in downtown Denver, Colorado, compromised the character-defining visual and spatial relationships of S. R. DeBoer's 1924 design for the plaza. (author, 1993)



GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

Maintain Historic Features and Materials

Maintaining spatial organization and land patterns by non-destructive methods in daily, seasonal and cyclical tasks. For example, maintaining topography, vegetation and structures which define individual spaces or the overall pattern of the cultural landscape.

Failing to undertake preventive maintenance such as keeping volunteer tree and forest growth from spreading into open fields or meadows.

Utilizing maintenance methods which destroy or obscure the landscape's spatial organization and land patterns.

Repair Historic Features and Materials

Repairing spatial organization and land patterns by use of non-destructive methods and materials when additional work is required. For example, repairing structures, reclaiming open space from woody plant intrusion, or replanting vegetation to recapture the individual spaces or overall patterns of the cultural landscape.

Failing to undertake necessary repairs or remedial action, resulting in the loss of spatial organization and land patterns.

Replacing a feature that defines spatial organization and land patterns when repair is possible.



When historic land uses cannot be continued, maintenance practices, such as mowing or prescribed burns, may be used to prevent the succession of old fields. This image depicts the results of such a cyclical maintenance action in Arkansas. (NPS, 1996)

Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features

Replacing in-kind deteriorating or missing parts of significant features that define spatial organization and land patterns. For example, replacing leaching tanks which define the interior spaces of a mining complex.

Failing to undertake the necessary in-kind replacements which may compromise the spatial organization and land patterns.

TOPOGRAPHY

Identify, Retain, and Preserve Historic Features and Materials

Recommended

Identifying, retaining and preserving existing topography. Documenting topographic variation prior to project work, including shape, slope, elevation, aspect, and contour. For example, preparing a topographic survey.

Evaluating and understanding the evolution of a landscape's topography over time. Using archival resources such as plans and aerial photographs or, in their absence, archeological analysis techniques, to understand the historic topography.

Not Recommended

Executing project work that impacts topography without undertaking a topographic survey.

Executing project work without understanding its impact on historic topographic resources, such as watershed systems.



The landscape at Drayton Hall in Charleston, South Carolina, reflects seven generations of family ownership. This circular topographic addition along the approach road has been preserved. Future research is now underway to understand its date of introduction and the design intent. (author, 1994)



GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Stabilizing and protecting topography in a manner that is appropriate to the character of the landform. For example, installing a temporary protective textile over an eroding slope or restricting access to fragile earthworks.

Allowing unstable topographic conditions to deteriorate without intervention. For example, permitting pedestrian access to further degrade threatened landforms.

Maintain Historic Features and Materials

Maintaining historic topography by use of non-destructive methods and daily, seasonal, and cyclical tasks. This may include cleaning drainage systems, mowing vegetative cover or managing groundhogs.

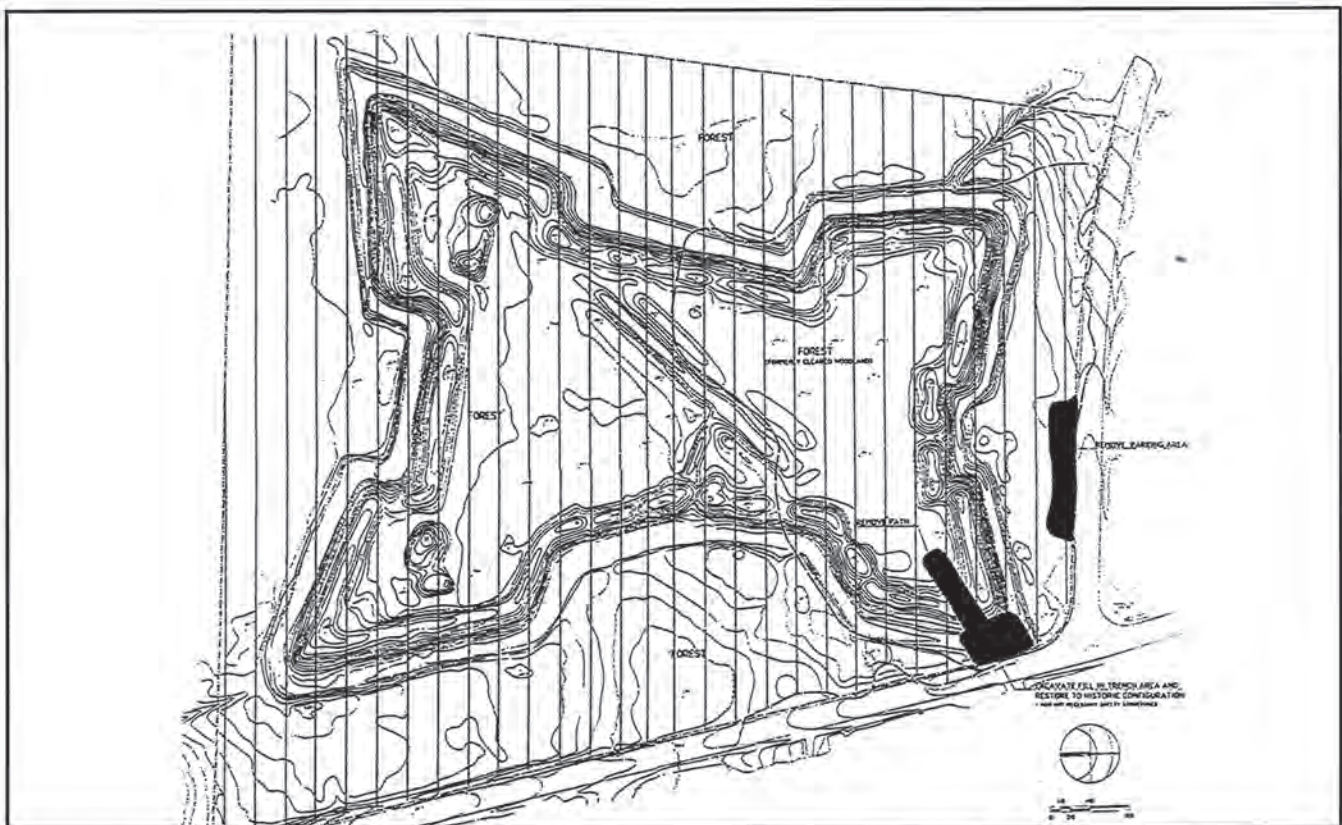
Failing to undertake preventive maintenance.

Utilizing maintenance methods which destroy or degrade topography, such as using heavily weighted equipment on steep or vulnerable slopes.

Repair Historic Features and Materials

Repair declining topographic features. For example, re-excavating a silted swale through appropriate regrading or re-establishing an eroding terrace.

Destroying the shape, slope, elevation aspect, or contour of topography when repair is possible.



To stabilize the earthworks at Fort Fisher in Petersburg, North Carolina, access has now been restricted to the fragile fort. A parking lot and trench area have been removed [see black areas] and stormwater runoff from local roads have been redirected. (NPS, 1989)

Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features

Utilizing a replacement material that does not match the historic material when the historic material is available. For example, using asphaltic materials to fill in natural sink holes in a turfed or soil area.

Replacing in-kind topographic features where there is extensive deterioration and damage. For example, minor filling and soil rejuvenation in areas of subsidence.

VEGETATION

Identify, Retain, and Preserve Historic Features and Materials

Recommended

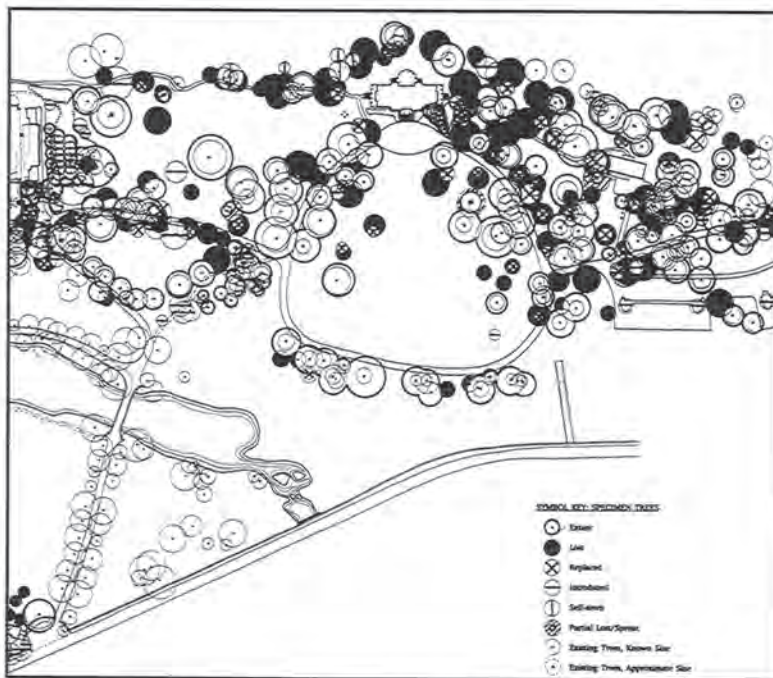
Identifying, retaining, and preserving existing vegetation; for example, woodlands, forests, trees, shrubs, crops, meadows, planting beds, vines, and ground covers. Documenting broad cover types, genus, species, caliper, and/or size, as well as color, scale, form and texture.

Evaluating the condition and determining the age of vegetation prior to project work. For example, tree coring to determine age.

Not Recommended

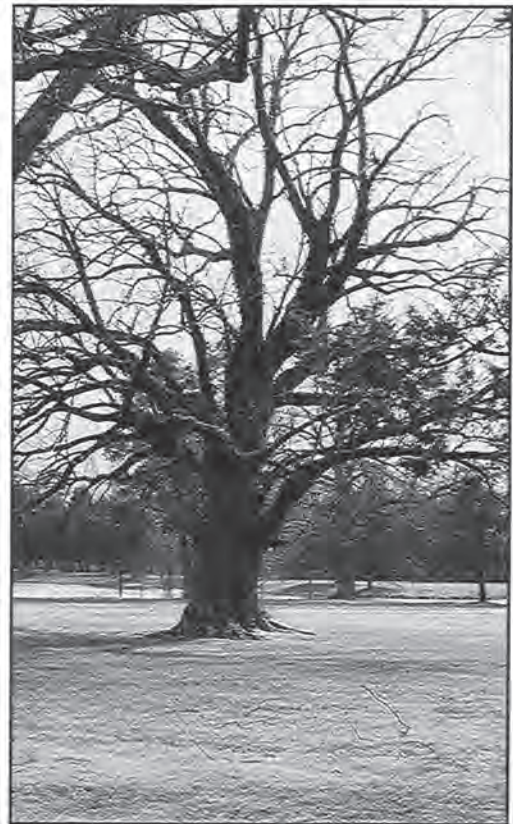
Undertaking project work that impacts vegetation without executing an "existing conditions" survey of plant materials.

Undertaking work without understanding the significance of vegetation. For example, removing roadside trees for utility installations or indiscriminate clearing of vegetation.



To provide a basis for later treatment decisions, the existing vegetation within the core area of the Vanderbilt Mansion National Historic Site in Hyde Park, New York, have been inventoried and analyzed. This plan illustrates change in the specimen tree canopy from 1938-1991. For example, lost trees are shown with a black circle, while trees that were introduced are depicted with an "x." (LANDSCAPES, 1992)

A large Osage orange (*Maclura pomifera*) at the Arkansas Post National Memorial needs to be cored to establish its age. (courtesy NPS)



GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

Retaining and perpetuating vegetation through propagation using methods such as seed collection and genetic stock cuttings from existing plants to preserve the gene pool..

Failing to propagate vegetation from extant genetic stock, when few or no known sources of replacement are available.

Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Stabilizing vegetation by staking, cabling, reinforcing, or other appropriate methods. For example, cabling a tree or limb to protect it against breakage from wind, ice, snow, or age.

Failing to stabilize threatened vegetation. For example, permitting the effects of severe weather conditions to damage or destroy vulnerable plant materials.

Stabilizing vegetation that serves to protect historic or archeological resources.

Removing vegetation from earthworks with subsurface archeological resources or removing large trees that shield marble burial markers from the effects of acid rain.

Protecting vegetation by controlling invasive or inappropriate volunteer plant materials. For example, utilizing mechanized removal, pruning, or approved herbicides.

Allowing invasive vegetation to thrive, leading to the damage and demise of historic vegetation.

Protecting below-ground root systems from soil compaction or protecting tree trunks and limbs from damage by equipment such as mowers, weed wackers and plows.

Failing to provide adequate barriers or alternative routes to protect significant vegetation from pedestrian, vehicular and heavy equipment traffic.

Maintain Historic Materials and Features

Maintaining historic vegetation by use of non-destructive methods and daily, seasonal, and cyclical tasks. This may include spring fertilizing, winter mulching or mowing an open field after it has gone to

Failing to undertake preventive maintenance of vegetation.

Utilizing maintenance practices which respect habit, form, bloom, fruit and color.

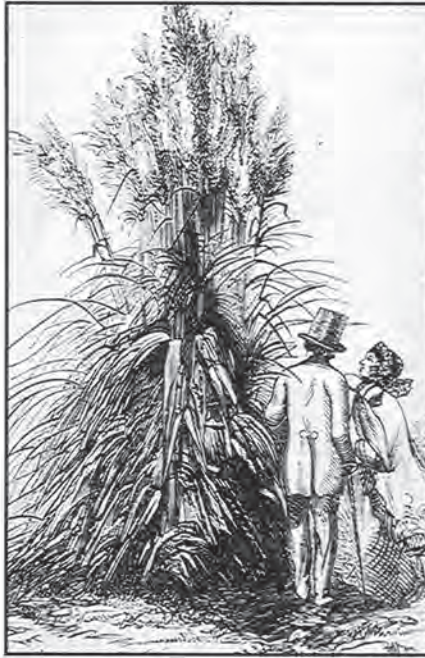
Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. For example, rotating crops on an inappropriate schedule, or pruning plants which should be left "natural" into "shapes."

Utilizing historic horticultural and agricultural maintenance practices when those techniques are critical to preserving the historic character of the vegetation. For example, utilizing a specific mowing pattern at a country estate.

Employing modern practices when traditional or historic can be used. For example, using a modern textile to control weed growth when a natural material that was used historically is available.

Rejuvenating vegetation by corrective pruning, deep root watering or fertilizing, aerating soil, and/or grafting onto historic genetic stock.

Replacing or destroying vegetation when rejuvenation is possible. For example, removing a deformed and damaged plant when corrective pruning may be employed.



Preservation principles in the Standards have parallels world wide. This tree in a public park in Warsaw, Poland, [top left] was protected and stabilized following a recent storm. (author, 1994) Pampas grass, as depicted in this 1858 engraving, [top center] was often used as a bedding plant. Along the monumental core in Washington, D.C., some of the beds have been replaced in-kind [top right] as a result of their easy availability in the nursery trade.

Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Stabilizing and protecting circulation features by temporary shoring methods until more permanent methods can be undertaken. For example, installing a temporary timber retaining wall or gabions to halt erosion until a permanent solution can be determined.

Failing to provide stabilization to circulation features. For example, allowing erosion from an unstable slope to cover a drive, ultimately resulting in a new alignment.

Protecting circulation features and materials by monitoring use. For example, restricting access to a prehistoric trail during periods of peak rainfall, or restricting high speed traffic from a leisure drive or parkway.

Failing to control the volume and intensity of use on circulation systems that results in damage or loss of features or materials. For example, allowing heavy loads on a historic trail.

Limited Replacement In Kind of Historic Features

Replacing in-kind a single plant or an entire plant grouping when the vegetation is too deteriorated or damaged to be saved. For example, infilling an individual plant in a windbreak, or perennials in a border, with historically appropriate plant materials.

Replacing vegetation that is beyond repair with new material when the historic plant is available.



As part of a preservation project, the walks around Boston's Jamaica Pond Park were repaired and resurfaced. A loose, crushed stone surface material (an embedded aggregate) was rolled into the asphalt surface, thus allowing for upgraded uses such as jogging, biking and snow removal, while retaining the historic character. (FLONHS and author, 1990)

CIRCULATION**Identify, Retain, and Preserve Historic Features and Materials***Recommended*

Identifying, retaining, and preserving the existing circulation systems prior to project work. All circulation features should be documented, from small paths and walks to larger transportation corridors such as parkways, highways, railroads and canals, as well as alignment, surface and edge treatment, width, grade, materials and infrastructure.

Evaluating the existing condition and determining the age of circulation systems. For example, utilizing aerial photographs and historic maps to date the introduction of carriage roads in an expanding rural cemetery.

Not Recommended

Executing project work that impacts circulation systems without undertaking an "existing conditions" survey.

Undertaking work without understanding the importance of circulation systems. For example, closing off historic roads and removing others, thus altering the historic circulation patterns in a fishing village.

Maintain Historic Materials and Features

Maintaining circulation systems through non-destructive methods in daily, seasonal and cyclical tasks. This may include hand raking, top dressing, or rolling surface materials.

Utilizing maintenance practices that respect infrastructure. For example, cleaning out debris from drainage systems.

Failing to undertake preventive maintenance of circulation features and materials. For example, using a snow plow across a coarse textured pavement.

Using materials such as salts and chemicals that can hasten the deterioration of surface treatments.

Allowing infrastructure to become dysfunctional. For example, permitting a failed drainage system to contribute to the degradation and loss of associated road surface.

Repair Historic Materials and Features

Repairing surface treatment, materials and edges. For example, by applying a traditional material to a stabilized subsurface base or patching a railroad corridor retaining wall.

Replacing or destroying circulation features and materials when repair is possible. For example, removing damaged curbing that could be repaired during a road repaving project.

**Limited Replacement In Kind
of Extensively Deteriorated Portions of Historic Features**

Replacing in-kind circulation features or materials when they are too deteriorated or damaged to be repaired. For example, replacing a worn cinder path with a new material that matches the old in composition, design, color and texture.

Removing circulation features that are beyond repair when the historic feature or material is available. For example, installing new drainage inlets when the historic prototype survives.



In the 1980s, Star Lake in Lower Onondaga Park in Syracuse, New York, was filled-in without undertaking any research or analysis. This loss of this character-defining feature significantly altered the park's spatial relationships. (Onondaga County Historical Society and author, 1989)

WATER FEATURES**Identify, Retain, and Preserve Historic Features and Materials****Recommended**

Identifying, retaining and preserving existing water features and water sources such as retention ponds, pools, and fountains. Documenting shape, edge and bottom condition/material; water level, movement, sound and reflective qualities; and associated plants and animal life and water quality prior to work.

Evaluating the condition and, where applicable the evolution of water features over time. For example, assessing water quality and/or utilizing archeological techniques to determine the changing path of a watercourse

Not Recommended

Undertaking project work that impacts water features or hydrology, without undertaking an "existing conditions" survey. For example, filling in a pool that provides habitat for rare or endangered wildlife.

Executing project work without understanding its impact on water features. For example, placing a section of stream in a culvert or channel.

Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Stabilizing water features by consolidating or reinforcing the form, bottom, or edge treatments. For example, bracing a slipped spill rock in a cascade.

Protecting water features by controlling inappropriate volunteer plant materials. For example, cleaning a pond by removing invasive plant materials.

Protecting water features from hazardous or toxic materials. For example, limiting agricultural fertilizers to minimize their impact on associated streams.

Failing to stabilize threatened water features. For example, permitting pedestrian access to further degrade threatened embankments.

Allowing invasive vegetation to thrive, leading to radical changes in water quality.

Failing to protect water features from point source, or runoff pollutants, toxins or wastes.

Maintain Historic Features and Materials

Maintaining water features by use of non-destructive methods and daily, seasonal, and cyclical tasks. For example, cleaning leaf litter or mineral deposits from drainage inlets or outlets.

Maintaining a water feature's mechanical, plumbing and electrical systems to insure appropriate depth of water or direction of flow. For example, routinely greasing and lubricating gate mechanisms in a canal lock.

Failing to undertake preventive maintenance to water features.

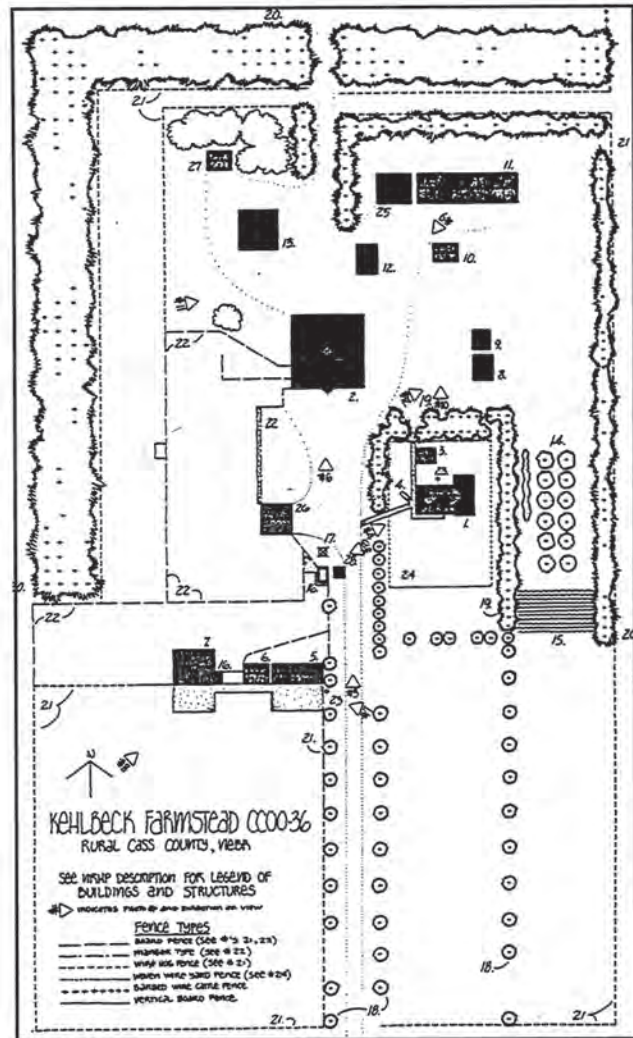
Utilizing maintenance methods which destroy or degrade water features, such as heavily weighted equipment in the base of a pond, thus destroying its fragile lining.

Allowing mechanical systems to fall into a state of disrepair, resulting in changes to the water feature. For example, failing to maintain a fountain's plumbing, thus altering its spray.





This integrity of this historic irrigation system in San Antonio, Texas, [above] has been preserved by keeping it clean of leaf litter and mineral deposits. (author, 1992) The plan for the Kehlbeck Farmstead in Cass County, Nebraska, [right] illustrates a well-planned and aesthetically arranged general farm complex of the twentieth century. Note the varied graphic techniques used to identify and document a variety of fence types. (National Register Files)



Repair Historic Features and Materials

Repairing water features by reinforcing materials or augmenting mechanical systems. For example, patching a crack in an irrigation ditch or repairing a failed pump mechanism.

Replacing or removing features or systems when repair is possible. For example, abandoning an irrigation system that could be repaired.

Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features

Replacing in kind a portion of a water feature when it is too deteriorated or damaged to be repaired. For example, installing coping stones in limited areas that match the old in composition, design, color and texture.

Replacing portions of water features using a new material when the historic material is available.

STRUCTURES, FURNISHINGS AND OBJECTS**Identify, Retain, and Preserve Historic Materials and Features**

Identifying, retaining and preserving existing structures, furnishings and objects prior to project work—including gazebos and bridges, playground equipment and drinking fountains, benches, lights, statuary and troughs. Documenting the relationship of these features to each other, their surrounds, and their material compositions.

Evaluating the condition and determining the age of structures, furnishings and objects. For example, utilizing Historic Structure Reports and historic aerial photographs to understand the relationship of barns, windmills, silos and water troughs in a ranch compound or the placement of light standards and benches along park paths.

Retaining the historic relationships between the landscape and its buildings, structures, furnishings and objects.

Undertaking project work that impacts structures, furnishings, and objects without undertaking an “existing conditions” survey. For example, removing historic roadside

Undertaking work without understanding the significance of structures, furnishings and objects. For example, removing a pergola that defines a courtyard, or fence posts that delineate the limits of a horse farm.

Removing or relocating buildings, structures, furnishings and objects, thus destroying or diminishing the historic relationship between the landscape and these features. For example, taking down an estate’s greenhouse, or removing a stone mile-marker from a historic road.

Stabilize and Protect Deteriorated Historic Materials and Features as a Preliminary Measure

Stabilizing structures, furnishings and objects by reinforcement or consolidation of their features or materials. For example, reinforcing a roof member of a bandshell or using an epoxy consolidant on a spalling masonry bench.

Protecting the features and materials of structures, furnishings and objects. For example, installing a fence around a deteriorating pumping station or placing a temporary shelter or box over a garden ornament in winter.

Failing to stabilize threatened structures, furnishings and objects. For example, permitting the effects of severe weather to damage or destroy vulnerable features.

Allowing vulnerable structures, furnishings and objects to remain unprotected. For example, failing to secure doors and windows of an abandoned boathouse, thus permitting vandalism or looting.

Maintain Historic Features and Materials

Maintaining structures, furnishings and objects by use of non-destructive methods and daily, cyclical and seasonal tasks. This may include cleaning, limited paint removal, or re-application of protective coating systems.

Failing to undertake preventive maintenance for structures, furnishings and objects resulting in their damage or loss. For example, failing to remove rust from an iron boot scraper which leads to its deterioration.

Utilizing maintenance practices and materials that are harsh, abrasive, or unproven. For example, using grit blasting on wood, brick, or soft stone, or using harsh chemicals on masonry or metals.





Top: Council rings are simple stone benches with fire pits in the center that resemble the kivas of the Pueblo Indians in the American Southwest. Landscape architect Jens Jensen typically placed council rings along a woodland edge—often where they are prone to successional overgrowth. By employing cyclical and seasonal clearing operations, the area around and within the council ring at the Clearing in Ellison Bay, Wisconsin, has been kept free of perennial weeds, and the stone masonry remains in excellent condition. (author, 1993)

Repair Historic Features and Materials

Repairing features and materials of structures, furnishings and objects by reinforcing historic materials. For example, returning the mechanism of a windmill to good working order or straightening bent wrought iron fencing.

Replacing or destroying a feature of structures, furnishings or objects when repair is possible. For example, replacing a pavilion's tile roof with asphalt shingles or removing a broken historic light fixture rather than rewiring it.

Limited Replacement In-Kind of Extensively Deteriorated Portions of Historic Features

Replacing in-kind a feature of a building, structure, furnishing or object when it is too deteriorated to repair. New materials should match the old in composition, design, color and texture. For example, replacing broken wooden fence or bench slats, clapboards or shingles, window parts, or deck timbers in-kind.

Removing or replacing features of buildings, structures, furnishings or objects with new material when historic materials are available. For example, demolishing an ice house rather than re-roofing it, or failing to save and reattach the original portion of a stone statue, using a concrete replacement instead.

Adding "period"-looking buildings, structures, furnishings and objects.



Many of the stones from the Island Bridge along Boston's Riverway had fallen into the Muddy River below. As part of the preservation work, these stones were retrieved from the water and reused, in addition to several new stones that were cut to order to replace in-kind those that were lost. (author, 1988, 1994)



Although the work in the following sections is quite often an important aspect of preservation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair and limited replacement); rather, such work is assessed for its potential negative impact on the landscape's historic character. For this reason, particular care must be taken not to obscure, alter, or damage character-defining features.



To meet ADA requirements, accessibility to the Houghton Chapel at Wellesley College has been provided from a secondary entrance. The landscape in this area possessed little integrity—thus, as part of this regrading operation, the historic granite stairs were buried below and preserved in-situ, below the new grade. (Carol R. Johnson Associates, Inc.)

ACCESSIBILITY CONSIDERATIONS

Recommended

Identifying the cultural landscape's character-defining features, materials and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a way that character-defining features, materials and finishes are preserved. For example, widening existing brick walks by adding new brick adjacent to it to achieve the desired width.

Not Recommended

Undertaking code-required alterations before identifying those features, materials and finishes which are character-defining and must therefore be preserved.

Damaging or destroying character-defining features in attempting to comply with accessibility requirements. For example, paving over historic concrete walks with blacktop.

Working with local accessibility and preservation specialists to determine the most appropriate solution to access problems which will have the least impact on character-defining features.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant character-defining landscape features, materials and finishes. For example, incorporating wider sidewalks only at intersections where ramps are being installed, leaving the main runs or historic sidewalks in place.

Finding solutions to meet accessibility requirements that minimize the impact on the cultural landscape, for example, retaining the original character-defining entrance steps and replacing the access ramp at a side or secondary entrance.

Altering character-defining features, materials and finishes without consulting with local accessibility and preservation specialists.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of character-defining landscape features, materials and finishes. For example, replacing three foot wide stone, brick or historic concrete sidewalks with new, wider concrete sidewalks.

Making modifications for accessibility without considering the impact on the cultural landscape. For example, introducing a new access element (ramp or lift) that destroys the symmetry of a formal garden.

HEALTH AND SAFETY CONSIDERATIONS

Recommended

Identifying the cultural landscape's character-defining features, materials and finishes so that code-related work will not result in their damage or loss.

Complying with health and safety code requirements, in such a manner that character-defining features, materials and finishes are preserved. For example, recognizing standards for the application of pesticides or herbicides.

Removing toxic materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading character-defining features to meet health and safety codes in a manner that assures their preservation. For example, upgrading a historic stairway without destroying character-defining handrails and balustrades.

Not Recommended

Undertaking code-required alterations before identifying those features, materials and finishes which are character-defining and must therefore be preserved.

Altering, damaging or destroying character-defining features, materials and finishes while making modifications to a cultural landscape to comply with safety codes.

Destroying a cultural landscape's character-defining features, materials and finishes without careful testing and without considering less invasive abatement methods.

Removing unhealthful materials without regard to personal and environmental safety.

Making changes to cultural landscapes without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to character-defining features, materials and finishes.

Damaging or obscuring character-defining features, materials and finishes or adjacent areas in the process of doing work to meet code requirements.

GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

Installing safety-related systems that result in the retention of character-defining features, materials, and finishes; for example, fire-suppression systems or seismic retrofits.

Applying the necessary materials to add protection to character-defining features, materials and finishes. For example, applying fire retardant, intumescent paint coatings to a deck to add thermal protection to its steel.

Adding new features to meet health and safety codes in a manner that preserves adjacent character-defining features, materials and finishes. For example, creating a fire access route along a derelict historic corridor.

Covering character-defining features with fire resistant sheathing which results in altering their visual appearance.

Using materials intended to provide additional protection, such as fire-retardant coatings, if they damage or obscure character-defining features, materials and finishes.

Radically changing, damaging or destroying character-defining features, materials and finishes when adding new code-required features.

ENVIRONMENTAL CONSIDERATIONS

Recommended

Identifying the cultural landscape's character-defining features, materials and finishes so that environmental protection-required work will not result in their damage or loss.

Complying with environmental protection regulations in such a manner that character-defining features, materials and finishes are preserved. For example, protecting historic vegetation in which rare and endangered species nest.

Working with environmental protection officials to investigate systems, methods, devices or technologies of equivalent or superior effectiveness to those prescribed by regulation so that unnecessary alterations can be avoided.

Reclaiming or re-establishing natural resources in a manner that promotes the highest degree of environmental protection, while preserving significant historic features, materials and finishes. For example, reclaiming a wetland to comply with applicable environmental regulations, while re-establishing the feature as it appeared historically. Undertaking environmental protection-required work

Not Recommended

Undertaking environmental protection required work before identifying character-defining features, materials and finishes which should be preserved.

Altering damaging or destroying character-defining features, materials and finishes while making modifications to a cultural landscape to comply with environmental protection regulations.

Making changes to cultural landscapes without first exploring equivalent environmental protection systems, methods, devices or technologies that may be less damaging to historic features, materials and finishes.

Making environmental protection related modifications that do not provide a reasonable balance between improved environmental conditions and the preservation of historic features, materials and finishes.

ENERGY EFFICIENCY*Recommended*

Retaining and maintaining those historic energy efficient features or parts of features of the landscape. For example, maintaining vegetation which performs passive solar energy functions.

Improving energy efficiency of existing features through non-destructive means. For example, utilizing a recirculating system in a fountain rather than uncontrolled discharge to a storm system.

Not Recommended

Removing or altering those historic features or parts of features which play an energy conserving role. For example, removing a historic windbreak.

Replacing energy inefficient features rather than improving their energy conservation potential. For example, replacing an entire historic light standard rather than retrofitting the fixture to be more efficient.

Standards for Rehabilitation & Guidelines for Rehabilitating Cultural Landscapes

When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.



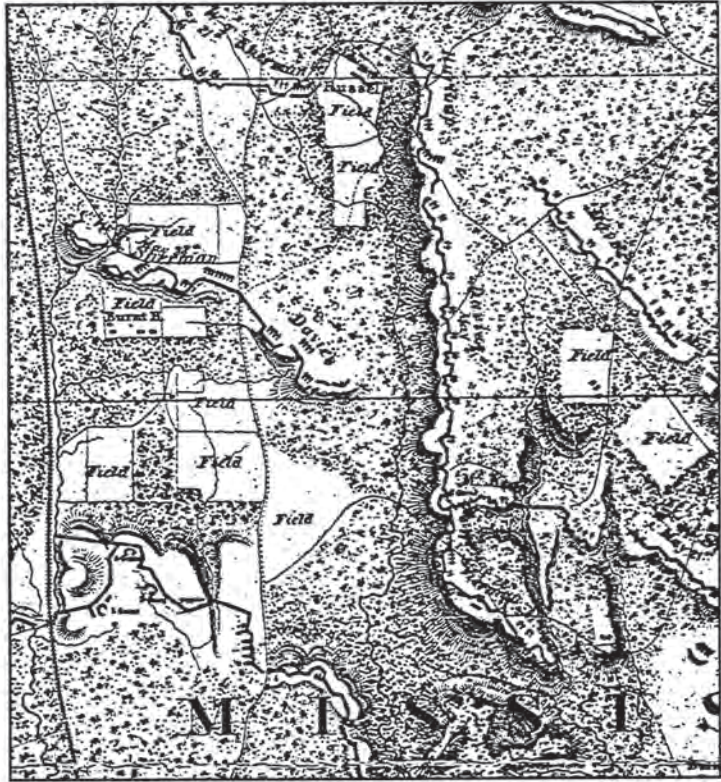
Standards for Rehabilitation

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.

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

Introduction

In **Rehabilitation**, a cultural landscape's character-defining features and materials are protected and maintained as they are in the treatment Preservation; however, a determination is made prior to work that a greater amount of existing historic fabric has become damaged or deteriorated over time and, as a result, more repair and replacement will be required. The **Standards for Rehabilitation and Guidelines for Rehabilitation** allow the replacement of extensively deteriorated, damaged, or missing features using either traditional or substitute materials. For example, **Rehabilitation** may include replacing a crushed bluestone carriage drive with a rolled aggregate finish or replacing shaded-out understory shrubs with more shade-tolerant species. Of the four treatments, only **Rehabilitation** includes an opportunity to make possible an efficient contemporary use through alterations and additions; for example, replacing tillage with permanent grasslands to support a new system of livestock grazing or introducing new turf management to a park's open meadows to support sports field use.



Identify, Retain, and Preserve Historic Materials and Features

Like Preservation, guidance for the treatment **Rehabilitation** begins with recommendations to identify those landscape features and materials important to the landscape's historic character and which must be retained. Therefore, guidance on **identifying, retaining, and preserving** character-defining features is always given first. An overall evaluation of existing conditions should always begin at this level. The character of a cultural landscape is defined by its spatial organization and land patterns; features such as topography, vegetation, and circulation; and materials, such as an embedded aggregate pavement.

When evaluating the surviving spatial organization and land patterns of battlefield lands today, it is necessary to understand historic documents, such as this map section [top right], prior to making management decisions. This documents the 1862 entrenchments lines and the routes followed by U.S. Forces under the Command of Union MG Halleck, in their advance on the Confederate stronghold of Corinth, Mississippi. (NPS archive) This century-old oak [opposite] from a Hudson river estate has been grounded for its protection with a lightening rod. (author, 1991)



☒ Protect and Maintain Historic Features and Materials

After identifying those materials and features that are important and must be retained in the process of **Rehabilitation** work, then **protecting and maintaining** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work; it may be accomplished through permanent or temporary measures. For example, protection includes restricting access to fragile earthworks or cabling a tree to protect against breakage. Maintenance includes daily, seasonal, and cyclical tasks, and the techniques, methods and materials used to implement them. For example, repointing a stone footbridge, pruning a hedge, or rotating crops.

☒ Repair Historic Features and Materials

When existing conditions of character-defining materials and portions of features warrant more extensive work, **repairing** is recommended. **Rehabilitation** guidance for the repair of historic features and materials, such as brick pavements, masonry walls, and wire fencing, begins with the least degree of intervention possible. Such work could include regrading a section of a silted swale, aerating soil, or reclaiming a segment of meadow edge. Repairing also includes the limited replacement in kind of extensively deteriorated materials or *parts* of features, or replacement in kind of materials or parts of features lost due to seasonal change. Using material which matches the historic in design, color, and texture is always the preferred option; however, substitute material is acceptable if the material conveys the same visual appearance as the historic period. For example, spring replacement of annual beds; in an orchard, planting a tree of new stock that matches the historic form, and composition; or, using a spun aluminum baluster where a cast zinc member was beyond repair.



Traditional maintenance practices for the corral fences at the Hubbell Trading Post NHS [top right] in Ganado, Arizona have preserved the integrity of the wooden fencing and the dirt yards they define. This historic birch allee [opposite] at Stan Hywet Hall, Akron, Ohio, was suffering from borer infestation and leaf miner. Dying trees were topped and basal sprout growth encouraged. Trees were thinned, and , when new growth matured, older trunks were removed. Original rootstock and genetic material were preserved. This work took fifteen years to realize. (author, 1996, 1994)

❖ Replace Deteriorated Historic Materials and Features

Following repair in the hierarchy, **Rehabilitation** guidance is provided for **replacing** an **entire** character-defining feature with new material because the level of deterioration or damage precludes repair. Examples include replacing a farm's drought-damaged pasture or replacing a corroded cast iron fence surrounding a reservoir. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind. Because this approach may not always be technically, economically, or environmentally feasible, the use of compatible substitute materials can be considered. Whatever level of replacement takes place, the historic features and materials should serve as a guide to the work.

While the *Guidelines* recommend the replacement of an entire feature that is extensively deteriorated or damaged, they *never* recommend removal and replacement with new material if repair is possible.

❖ Design for the Replacement of Missing Historic Features

When an entire feature is missing, the landscape's historic character is diminished. Although accepting the loss is one possibility, where an important feature is missing, its replacement is always recommended in the **Rehabilitation** guidelines as the *first* or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the landscape's historical



Where historic fences were lost, new replacement fences [top right] have been constructed based on historic photographs of nearby neighborhoods for the Martin Luther King, Jr., National Historic Site, Atlanta, Georgia. (courtesy NPS) Historically, plant materials for the design of Perry's Victory and International Peace Memorial in Put-in-Bay, Ohio, [center] were ill-chosen for the severe conditions. The design for replacement hedges at this waterfront location should use a hardier species than originally planted. (courtesy NPS) This former carousel in Genesee Valley Park, Rochester, New York, [opposite] has been re-used as a picnic shelter. The installation of a new restroom facility has also been required by the heavy public use of the park. The design of the latter facility is clearly new, but is inspired by earlier park shelter design. (LANDSCAPES)

appearance, then planning, designing and installing a new feature based on such information is appropriate.

A *second* course of action for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic landscape. The new design should always take into account the spatial organization and land patterns, features, and materials of the cultural landscape itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created. For example, replacing a set of lost granite steps with concrete steps which match the historic in location, size, scale, color and texture or replacing a mass of Eastern hemlocks with Japanese spruce.

✦ Alterations/Additions for the New Use

When alterations to a cultural landscape are needed to assure its continued use, it is most important that such alterations do not radically change, obscure, or destroy character-defining spatial organization and land patterns

or features and materials. Alterations may include enclosing a septic system, increasing lighting footcandles, extending acceleration and deceleration lanes on parkways, or, adding new planting to screen a contemporary use or facility. Such work may also include the selective removal of features that detract from the overall historic character.

The installation of additions to a cultural landscape may seem to be essential for the new use, but it is emphasized in the **Rehabilitation** guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining, spatial organization and land patterns or features. If, after a thorough evaluation of alternative solutions, a new addition is still judged to be the only viable alternative, it should be planned, designed, and installed to be clearly differentiated from the character-defining features, so that these features are not radically changed, obscured, damaged, or destroyed. For example, constructing a parking lot in a secondary meadow that is enclosed by existing vegetation or



This Central Park playground had become deteriorated over time. Rather than replace the structures with standard apparatus from a catalog, the new play structures—made of traditional materials—are compatible with the park's historic character. (Central Park Conservancy)

GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

installing contemporary trail signage that is compatible with the historic character of a landscape.

Additions and alterations to cultural landscapes are referenced within specific sections of the **Rehabilitation** guidelines such as Topography, Vegetation and Water Features.

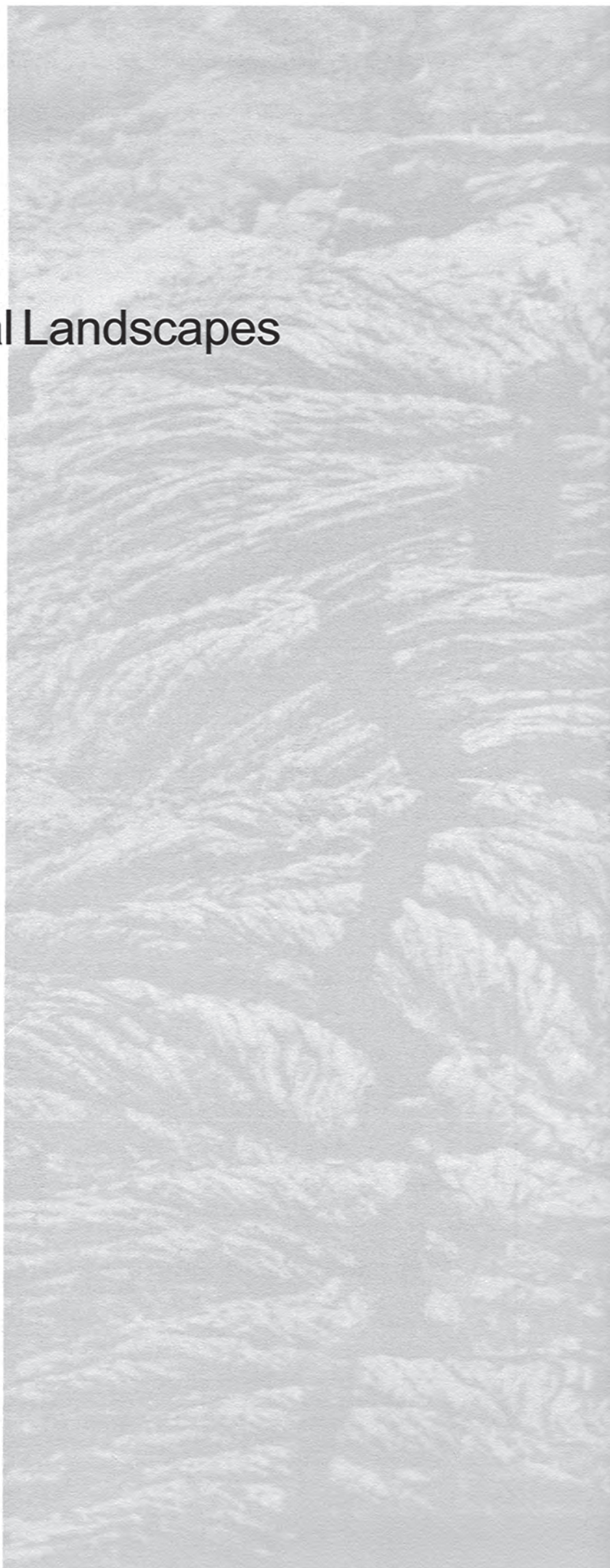
☒ **Accessibility Considerations/Health and Safety Considerations/Environmental Considerations and Energy Efficiency**

These sections of the **Rehabilitation** guidance address work done to meet accessibility requirements; health and safety code; environmental requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the landscape's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.



The Arnold Arboretum's Hunneywell Visitor's Center in Jamaica Plain, Massachusetts, was constructed in 1892. [top right] Its immediate setting has changed considerably over time. [center] Since the existing landscape immediately surrounding the structure has little remaining integrity, the new accessibility solution has the latitude to integrate a broad program including site orientation, circulation, interpretation, and maintenance. The new planting design, references the original planting design principles, with a strong emphasis on form, color, and texture. The new curvilinear walks also provide a connection to the larger arboretum landscape for everyone. [opposite]

Guidelines for Rehabilitating Cultural Landscapes



SPATIAL ORGANIZATION AND LAND PATTERNS

Identify, Retain, and Preserve Historic Materials and Features

Recommended

Identifying, retaining and preserving the existing spatial organization and land patterns of the landscape as they have evolved over time. Prior to beginning project work, documenting all features which define those relationships. This includes the size, configuration, proportion and relationship of component landscapes; the relationship of features to component landscapes; and the component landscapes themselves, such as a terrace garden, a farmyard, or forest-to-field patterns.

Not Recommended

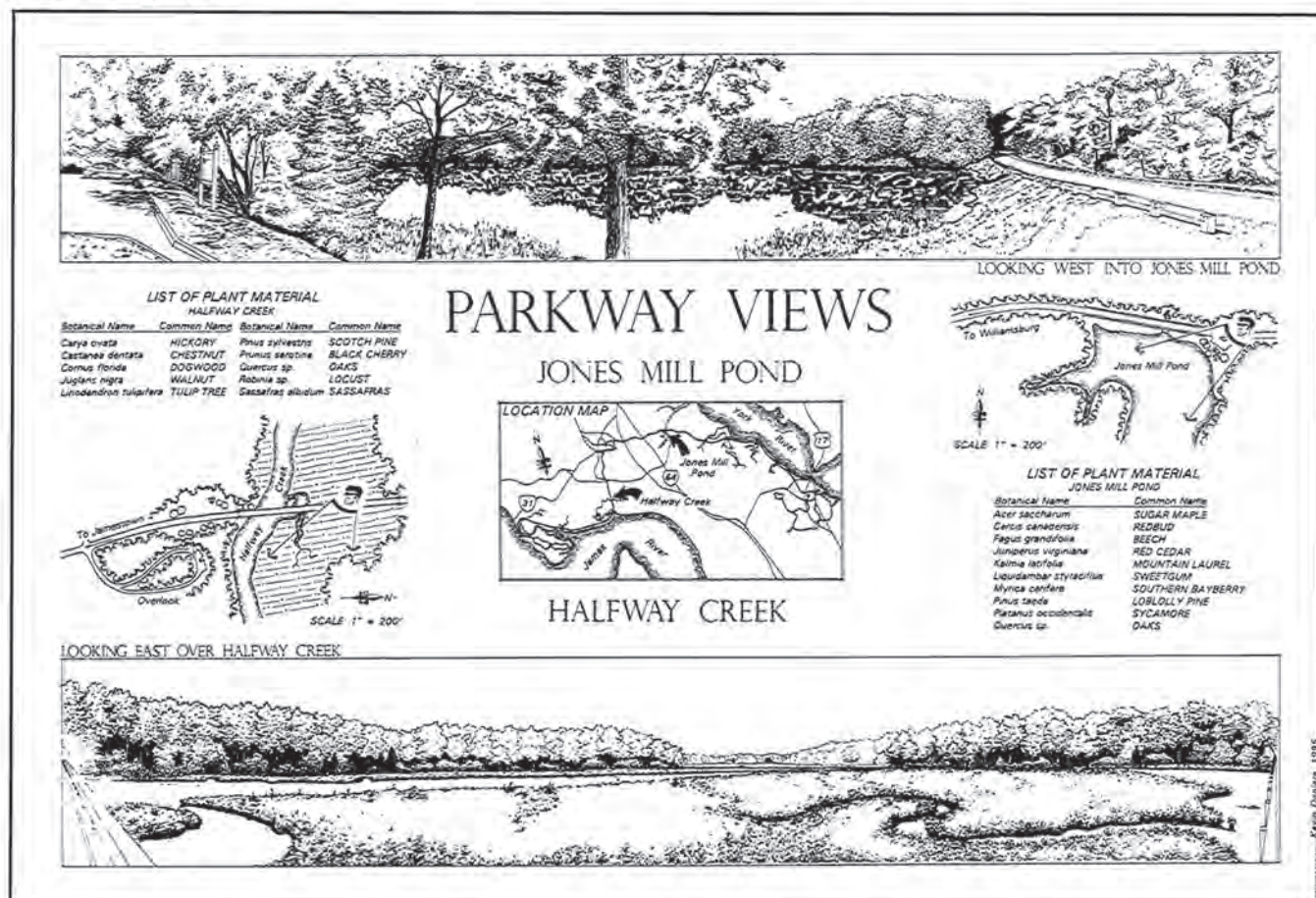
Undertaking project work without understanding the effect on existing spatial organization and land patterns. For example, constructing a structure that creates new spatial divisions or not researching an agricultural property's development history.

Protect and Maintain Historic Features and Materials

Protecting and maintaining features that define spatial organization and land patterns by non-destructive methods in daily, seasonal and cyclical tasks. For example, maintaining topography, vegetation, and structures which comprise the overall pattern of the cultural landscape.

Allowing spatial organization and land patterns to be altered through incompatible development or neglect.

Utilizing maintenance methods which destroy or obscure the landscape's spatial organization and land patterns.



Colonial Parkway was first designed in 1930-31 and developed over a period of thirty years. The historic corridor embodies modern parkway design standards with its curvilinear alignment and scenic intent. The approach used in developing the views was to frame them with native vegetation collected and planted on-site, while also maximizing the visual contact with the York and James rivers. Research and analysis findings have verified the high level of integrity of the overall design, without any significant changes to the parkway's engineering. (HABS)



REHABILITATION



Mount Vernon's spatial organization and land patterns, both within the historic property and its geographic context, have been preserved through appropriate maintenance, management techniques and land conservation strategies. (photos by Jack Boucher for HABS)

Repair Historic Features and Materials

Repairing materials that define the spatial organization and land patterns by use of non-destructive methods and materials when additional work is required. For example, repairing structures or regenerating vegetation which comprise the individual spaces or overall patterns of the cultural landscape.

Failing to undertake necessary repairs resulting in the loss of spatial organization and land patterns.

Replacing a feature that defines spatial organization and land patterns when repair is possible.

Replace Deteriorated Historic Materials and Features

Replacing in kind an entire feature that defines spatial organization and land patterns that is too deteriorated to repair.

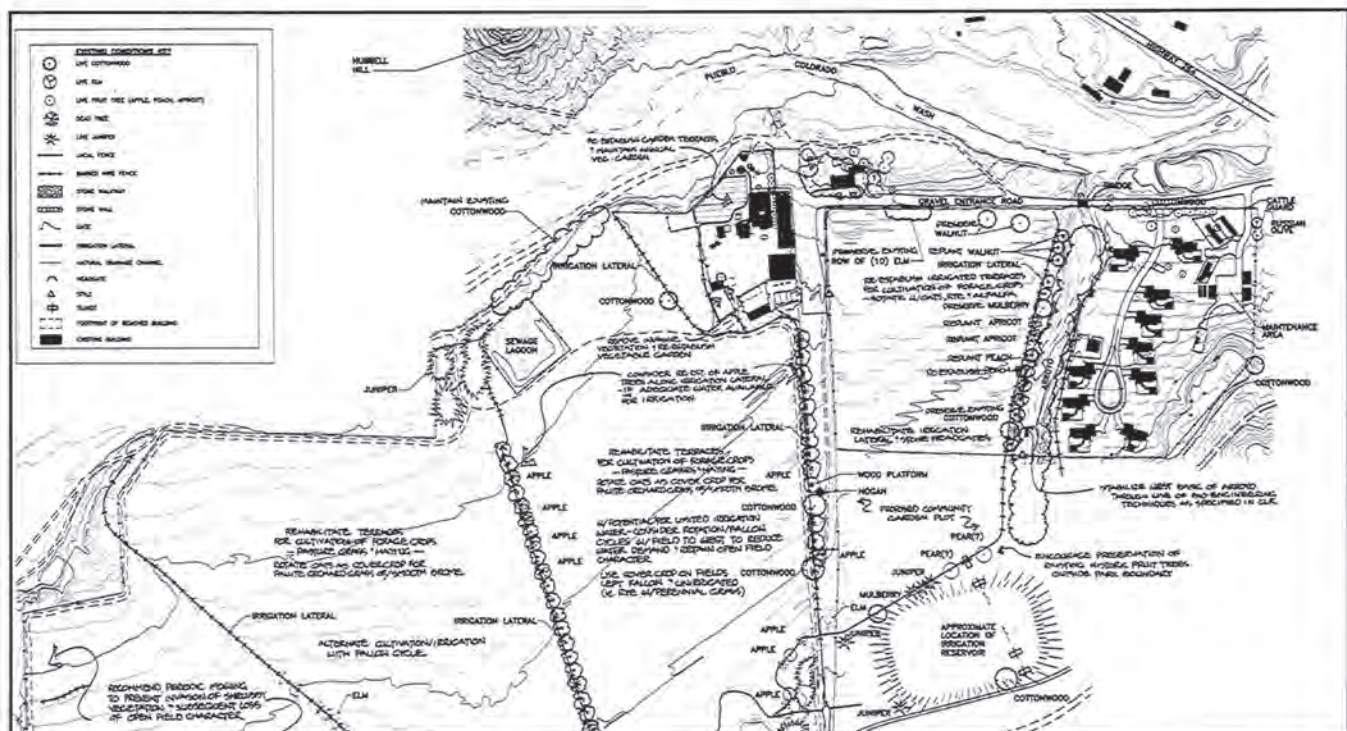
Removing a feature that is beyond repair and not replacing it; or, replacing it with a new feature that does not respect the spatial organization and land patterns.

Design for the Replacement of Missing Historic Features

Designing and installing new features which respect or acknowledge the historic spatial organization and land patterns. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the spatial organization and land patterns. For example, installing a new shrubplanting which defines the edge of a missing historic boundary.

Creating a false historical appearance because the replacement feature is based on insufficient historical, pictorial and physical documentation.

Introducing new features that are incompatible with the spatial organization or land patterns.



At the Hubbell Trading Post National Historic Site, Ganado, Arizona, the spatial organization and land patterns will be reinstated and the agricultural fields returned to active cultivation and forage crops. To re-establish the lost spatial relationships, apple trees along the irrigation canals will be replaced and the terraces they define will be returned to pasture grasses and haying. (Landscape Systems/Peggy Nelson)

Alterations/Additions for the New Use

Designing new features when required by the new compatible use to assure the preservation of the historic spatial organization and land patterns.

Adding a new feature that detracts from or alters the spatial organization and land patterns. For example, constructing a new farm house wing over a kitchen garden.

Placing a new feature where it may cause damage to, or be intrusive in spatial organization and land patterns. For example, inserting a new visitors center that blocks or alters a historic view or vista.

Introducing a new feature that is visually incompatible in size, scale, design, materials, color and texture.

Removing non significant features which detract from or have altered the spatial organization and land patterns.

Removing historic features which are important in defining spatial organization and land patterns.



The significance of Waterford is conveyed in its history, topography, architecture and integrity. The relationship between people and the land, as reflected in the topography, as well as the pristine character and integrity of the landscape, are of paramount importance when considering alterations or additions to the Village's spatial organization and land patterns. These perspectives illustrate two development plans: one for conventional development [bottom, not recommended], and one for limited development [opposite, recommended]. (Waterford Foundation)



TOPOGRAPHY

Identify, Retain, and Preserve Historic Features and Materials

Recommended

Identifying, retaining and preserving the existing topography. Documenting topographic variation prior to project work, including shape, slope, elevation, aspect, and contour. For example, preparing a topographic survey.

Evaluating and understanding the evolution of a landscape's topography over time. Using archival resources such as plans and aerial photographs or, in their absence, archeological analysis techniques to understand the historic topography.

Not Recommended

Undertaking project work that impacts topography without undertaking a topographic survey.

Executing project work without understanding its impact on historic topographic resources, for example, watershed systems.

Protect and Maintain Historic Features and Materials

Protecting and maintaining historic topography by use of non-destructive methods and daily, seasonal and cyclical tasks. This may include cleaning drainage systems or mowing vegetative cover.

Failing to undertake preventive maintenance.

Utilizing maintenance methods which destroy or degrade topography, such as using heavily weighted equipment on steep or vulnerable slopes.



The central portion of the Ke'anae peninsula contains the most tightly clustered concentration of taro "lo'i" in the area. The lo'i themselves are surrounded by convex earthen banks. These banks serve as topographic dividers between the fields as well as trails for foot traffic—one person; single file. The wider banks, some of which measure eight to ten feet, provide access for tractors and all-terrain vehicles. This plan documents dirt mounds that have survived in the Waiuanui Lo'i Complex. (Group 70)



Located on the southeastern corner of Boston Common, the Central Burying Ground (1754) is the fourth oldest burying ground in Boston, Massachusetts. One of its most distinguishing topographic features, a free-standing mound tomb—the last of its kind remaining in the city—had partially collapsed. Prior to its restoration, [see page 105] further deterioration was arrested with a wooden shoring and bracing system, thus preventing its total collapse. (Boston Parks & Recreation, Historic Burying Ground Initiative)

Repair Historic Features and Materials

Repair declining topographic features. For example, re-excavating a silted swale through appropriate regrading or reestablishing an eroding agricultural terrace.

Destroying the shape, slope, elevation or contour of topography when repair is possible.

Replace Deteriorated Historic Materials and Features

Using existing physical evidence of the form and composition to reproduce a deteriorated topographic feature. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, re-establishing eroded bunkers or ramparts in a battlefield with a substitute soil mix that supports improved drainage and health and vigor of ground cover plant materials.

Removing a topographic feature that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, changing stepped terracing to a curved slope.

Design for the Replacement of Missing Historic Features

Designing and installing new topographic features when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial and physical documentation or a new design that is compatible with the shape, slope, elevation and contour of the historic topography. For example, installing an artificial jetty to replace one lost to beach erosion.

Creating a false historical appearance because the replacement feature is based on insufficient historical, pictorial and physical documentation.

Introducing a new topographic feature that is incompatible in shape, slope, elevation, aspect and contour.

Alterations/Additions for the New Use

Designing new topographic features when required by the new use so that they are as unobtrusive as possible and assure the preservation of the historic landscape. For example, designing and installing drainage systems to protect historic topographic features.

Placing a new feature where it may cause damage, or is incompatible with historic topography. For example, failing to provide proper drainage for a new feature which results in the decline or loss of topographic features.

Locating a new feature in such a way that it detracts from or alters the historic topography. For example, obscuring a historic shoreline through the construction of a new breakwall.

Introducing a new feature in an appropriate location, but making it visually incompatible in terms of its size, scale, design, materials, color and texture. For example, installing berms to screen new parking, but using incongruous topographic shape and contour.

VEGETATION**Identify, Retain, and Preserve Historic Features and Materials**Recommended

Identifying, retaining and preserving the existing historic vegetation prior to project work. For example, woodlands, forests, trees, shrubs, crops, meadows, planting beds, vines and ground covers. Documenting broad cover types, genus, species, caliper, and/or size, as well as color, scale, form and texture.

Evaluating the condition and determining the age of vegetation. For example, tree coring to determine age.

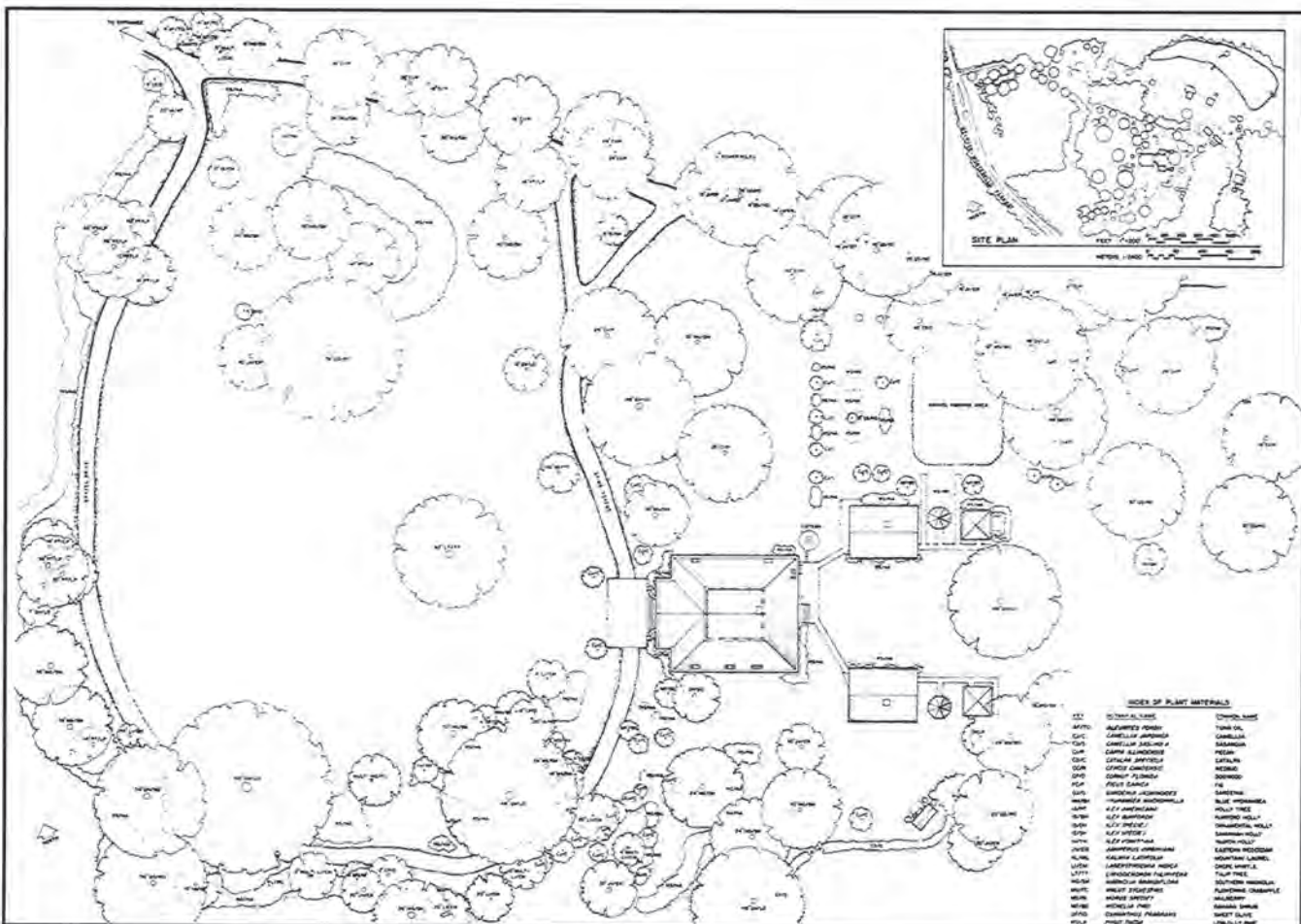
Retaining and perpetuating vegetation through propagation of existing plants. Methods include seed collection and genetic stock cuttings from existing materials to preserve the genetic pool.

Not Recommended

Undertaking project work that impacts vegetation without executing an existing conditions survey of plant material.

Undertaking project work without understanding the significance of vegetation. For example, removing roadside trees for utility installations, or indiscriminate clearing of a woodland understory.

Failing to propagate vegetation from extant genetic stock, when few or no known sources or replacements are available.



The surviving woody plant materials were all documented for Melrose National Historical Park in Natchez, Mississippi. The plan for the core area of the eighty acre property documents all trees, shrubs and vines, including several sentinel trees. Two examples include the 78" red oak and the 60" live oak, both in the central parkland area. This documentation project provides a sound basis for future treatment and management decisions. (HABS)

Protect and Maintain Historic Features and Materials

Protecting and maintaining historic vegetation by use of non-destructive methods and daily, seasonal and cyclical tasks. For example, employing pruning or the careful use of herbicides on historic fruit trees.

Utilizing maintenance practices which respect the habit, form, color, texture, bloom, fruit, fragrance, scale and context of historic vegetation.

Utilizing historic horticultural and agricultural maintenance practices when those techniques are critical to maintaining the historic character of the vegetation. For example, the manual removal of dead flowers to ensure continuous bloom.

Failing to undertake preventive maintenance of vegetation.

Utilizing maintenance practices and techniques which are harmful to vegetation; for example, over- or under-irrigating.

Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. For example, utilizing soil amendments which may alter flower color or, poorly-timed pruning and/or application of insecticide which may alter fruit production.

Employing contemporary practices when traditional or historic can be used. For example, utilizing non-traditional harvesting practices when traditional practices are still feasible.



Irrigation and other modern turf management techniques have changed the historic character of the lawn of the CCC-era headquarters complex at Scotts Bluff National Monument, Gering, Nebraska. [opposite] Trees are dying from over-watering and the manicured blue-grass lawn is distinctly different in character from its historic appearance [opposite] (NPS staff, 1995 and 1938)





Tower Grove Park in St. Louis, Missouri, is a National Historic Landmark. The Victorian park, famous for its ornamental herbaceous beds, or "bedding-out," [top] had all but lost most of these areas of seasonal plant display to mown lawn for ease of maintenance. [center] More recently, these beds have been reinstated using historic photographic documentation and written accounts. The results are herbaceous beds that are of a new design that is compatible with the habit, form, color, texture, scale, massing and context of the historic vegetation. [bottom] (Tower Grove Park)



Repair Historic Features and Materials

Rejuvenating historic vegetation by corrective pruning, deep root fertilizing, aerating soil, renewing seasonal plantings and/or grafting onto historic genetic root stock.

Replacing or destroying vegetation when rejuvenation is possible. For example, removing a deformed or damaged plant when corrective pruning may be employed.

Replace Deteriorated Historic Materials and Features

Using physical evidence of composition, form, and habit to replace a deteriorated, or declining, vegetation feature. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, replacing a diseased sentinel tree in a meadow with a disease resistant tree of similar type, form, shape and scale.

Removing deteriorated historic vegetation and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, a large mature, declining canopy tree with a dwarf ornamental flowering tree.

Design for the Replacement of Missing Historic Features

Designing and installing new vegetation features when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the habit, form, color, texture, bloom, fruit, fragrance, scale and context of the historic vegetation. For example, replacing a lost vineyard with more hardy stock similar to the historic.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

Introducing new replacement vegetation that is incompatible with the historic character of the landscape.

Alterations/Additions for the New Use

Designing a compatible new vegetation feature when required by the new use to assure the preservation of the historic character of the landscape. For example, designing and installing a hedge that is compatible with the historic character of the landscape to screen new construction.

Placing a new feature where it may cause damage or is incompatible with the character of the historic vegetation. For example, constructing a new building that adversely affects the root systems of historic vegetation.

Locating any new vegetation feature in such a way that it detracts from or alters the historic vegetation. For example, introducing exotic species in a landscape that was historically comprised of indigenous plants.

Introducing a new vegetation feature in an appropriate location, which is visually incompatible in terms of its habit, form, color, texture, bloom, fruit, fragrance, scale or context



The Star-Fort at the Ninety-Six Battlefield, Ninety-Six, South Carolina, was eroding from mowing operations. [top] To remedy the situation, native grasses were installed on the historic Revolutionary War Star Fort. [bottom] The interior of the fort has been mown short to accommodate visitor access, but tall native grasses are kept longer on the earthworks to discourage visitors from walking on them and to aid in their interpretation. The difference in height of the new grasses also help to visually define the earthworks themselves. (courtesy NPS)

CIRCULATION

Identify, Retain, and Preserve Historic Features and Materials

Recommended

Identifying, retaining, and preserving the existing circulation systems prior to project work. All circulation features should be documented, from small paths and walks to larger transportation corridors such as parkways, highways, railroads and canals. Documenting alignment, surface treatment, edge, grade, materials and infrastructure.

Evaluating the existing condition and determining the age of circulation systems. For example, using aerial photographs to understand a transportation corridor's change from a two-lane route to a six-lane highway.

Not Recommended

Executing project work that impacts circulation systems without undertaking an existing conditions survey.

Undertaking work without understanding the significance of circulation systems. For example, changing road alignments and widths without a thorough evaluation of the historic road.



This modern highway, which approximates the Oregon Trail approach to Mitchell Pass, was documented as part of a recent inventory project. Although the traffic noise is intrusive, the highway allows visitors to experience movement through the landscape, an important component of the trail. (courtesy NPS)

Protect and Maintain Historic Features and Materials

Protecting and maintaining circulation systems by use of non-destructive methods in daily, seasonal and cyclical tasks. This may include hand-raking, top-dressing, or rolling surface materials.

Utilizing maintenance practices which respect infrastructure. For example, cleaning out debris from drainage systems.

Failing to undertake preventive maintenance of circulation features and materials. For example, using a snow plow across a coarse textured pavement.

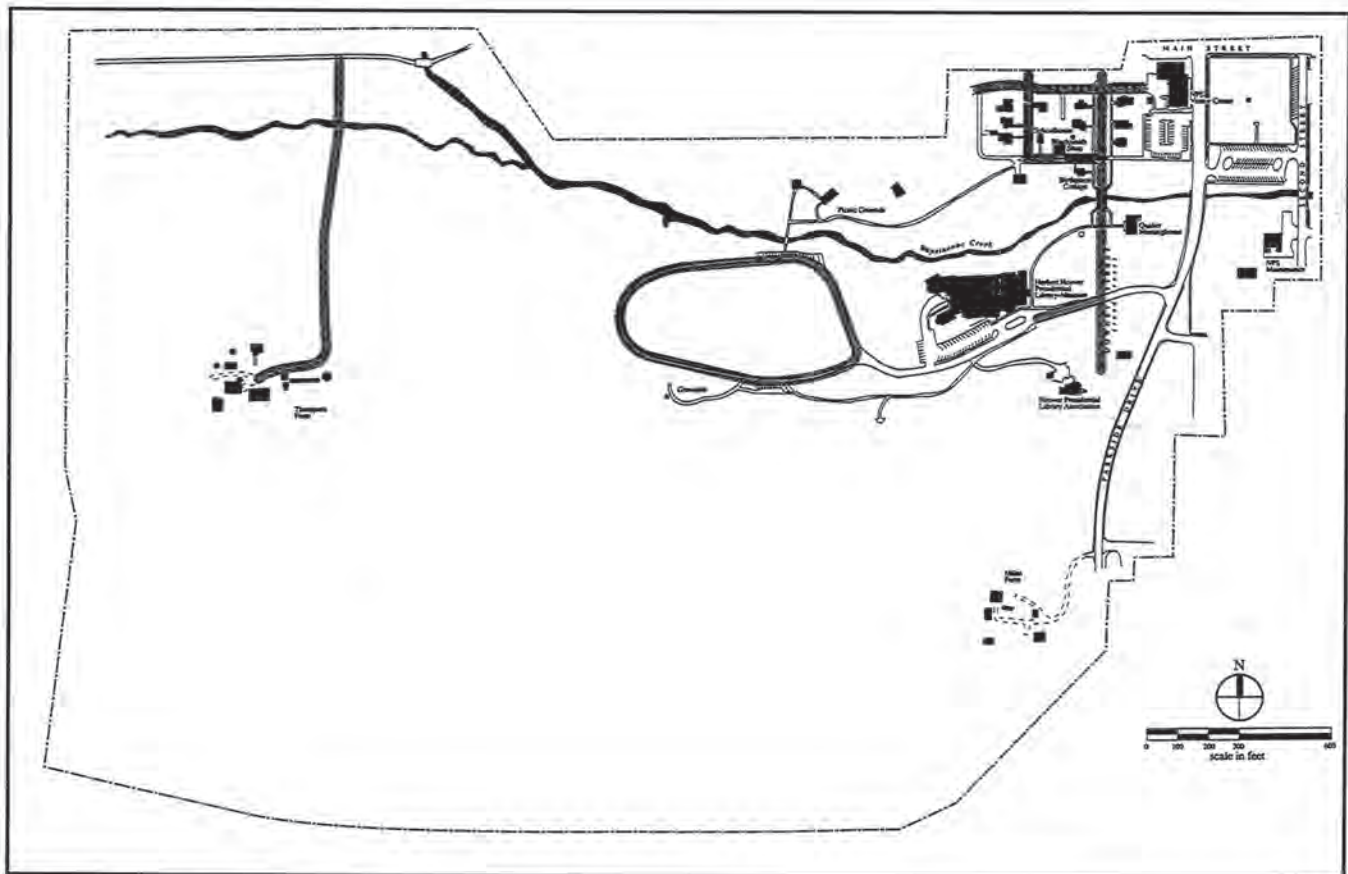
Using materials such as salts and chemicals, that can hasten the deterioration of surface treatments.

Allowing infrastructure to become dysfunctional. For example, permitting a failed drainage system to contribute to the degradation and loss of associated curbs or erosion of road shoulders.

Repair Historic Features and Materials

Repairing surface treatment, materials and edges. For example, by applying a traditional material to a stabilized subsurface base or patching a canal corridor retaining wall.

Replacing or destroying circulation features and materials when repair is possible. For example, not salvaging and reusing historic stone walk material.



At the Herbert Hoover National Historic Site in West Branch, Iowa, the integrity analysis for the landscape's circulation system revealed that a number of streets that existed historically have been substantially altered or are no longer extant. For example, Downey Street (the shaded area running north-south in the center of the historic core) formerly served as the entrance road into West Branch from the South. The road was re-routed and replaced with Parkside Drive (the larger road to its east). Today, the road trace of Downey Street still connects a number of nineteenth-century residences along its right-of-way. (Land and Community Associates)





A 75-mile portion of Skyline Drive at Shenandoah National Park overlooking the Blue Ridge Mountains of Virginia required the rehabilitation of a 22"-high, dry-laid stone wall [opposite]. The new wall was built to a height of 27" whereas code normally requires a height of 36". The wall was constructed of precast concrete, clad with split stone and mortar joints [center]. To achieve visual compatibility, recessed mortar joints were arranged in a random pattern [bottom]. (courtesy NPS and Paul Daniel Mariott)



Replace Deteriorated Historic Materials and Features

Using physical evidence of form, detailing and alignment to reproduce a deteriorated circulation feature. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered. For example, replacing in kind decayed timber edging along a historic trail route.

Removing a circulation feature that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, replacing a set of stairs with a wall or terrace.

Design for the Replacement of Missing Historic Features

Designing and installing new circulation features when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the historic character of the landscape. For example, reinstating a lost park entrance at a historic access point.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

Introducing a new circulation feature that is incompatible with the historic character of the landscape. For example, using a standardized concrete barrier along a historic parkway.



Alterations/Additions for the New Use

Designing and installing compatible new circulation features when required by the new use to assure the preservation of historic character of the landscape. For example, controlling and limiting new curb cuts, driveways, and intersections along a historic road.

Placing a new feature where it may cause damage, or is incompatible with the historic circulation. For example, adding new driveways, intersections, and “neck outs” along a historic road.

Locating any new circulation feature in such a way that it detracts from or alters the historic circulation pattern. For example, installing a new bike path when an existing historic path can accommodate the new use.

Introducing a new circulation feature which is in an appropriate location, but making it visually incompatible in terms of its alignment, surface treatment, width, edge treatment, grade, materials or infrastructure. For example, installing a new parking lot in a non-significant location, but utilizing paving materials and patterns which are incongruous with the landscape’s historic character.



To provide access to the historic earthworks at the Stones River National Battlefield in Murfreesboro, Tennessee, an interpretive boardwalk was installed [preceding page and above] to allow visitors access to the resources while protecting the earthworks themselves. (courtesy NPS)

WATER FEATURES**Identify, Retain, and Preserve Historic Features and Materials***Recommended*

Identifying, retaining and preserving existing water features and water sources such as retention ponds, pools, and fountains prior to beginning project work. Documenting the shape, edge and bottom condition/material; water level, sound and reflective qualities; and associated plant and animal life, and water quality.

Evaluating the condition, and, where applicable, the evolution of water features over time. For example, assessing water quality and/or utilizing archeological techniques to determine the changing path of a watercourse.

Not Recommended

Executing project work that impacts water features, and associated hydrology, without undertaking an existing conditions survey. For example, filling in a pond that was historically used for farm or recreation purposes.

Executing project work without understanding its impact on water features. For example, placing a section of stream in a culvert or concrete channel.



As part of a cultural landscape inventory, these remnants of a sawmill dam were inventoried at the Ozark National Scenic Riverways near Van Buren, Missouri. These surviving features suggest the former land uses of the region. (courtesy NPS)



Prior to rehabilitation project work, this five-acre wading pool in Martin Luther King Park in Buffalo, New York, was evaluated to understand its historic design and use. It was determined that, although the pool and poolhouse were in disrepair, they possessed a high level of integrity. (LANDSCAPES)

Protect and Maintain Historic Features and Materials

Protecting and maintaining water features by use of non-destructive methods in daily, seasonal and cyclical tasks. For example, cleaning leaf litter or mineral deposits from drainage inlets or outlets.

Maintaining a water feature's mechanical, plumbing and electrical systems to insure appropriate depth of water or direction of flow. For example, maintaining the timing and sequencing mechanisms for irrigation systems.

Failing to undertake preventive maintenance of water features and materials.

Utilizing maintenance methods which destroy or degrade water features, for example, the use of harsh chemical additives for maintaining water quality.

Allowing mechanical systems to fall into a state of disrepair, resulting in changes to the water feature. For example, failing to maintain a pool's aeration system thus leading to algae growth.

Repair Historic Features and Materials

Repairing water features by reinforcing materials or augmenting mechanical systems. For example, patching a crack in an pond liner or repairing a failed pump mechanism.

Replacing or removing features or systems when repair is possible. For example, abandoning a silted-in retention pond.



Jamaica Pond has an ongoing erosion problem, exacerbated by wave action. To stabilize the shoreline, this stone rip-rap was modeled after the original detail implemented by the Olmsted firm. (Pressley Associates and Boston Parks & Recreation)

Replace Deteriorated Historic Materials and Features

Using existing physical evidence of form, depth and detailing to reproduce a deteriorated water feature. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, replacing a lead pond liner with one made of plastic

Removing a water feature that is unrepairable and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, replacing a single orifice nozzle with a spray nozzle, thus changing the fountain's historic character from a singular stem of water to a mist-like stream.

Design for the Replacement of Missing Historic Features

Designing and installing a new water feature when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the historic character of the landscape. For example, replacing a lost irrigation feature using materials that convey the same visual appearance.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

Introducing a new design that is incompatible with the historic character of the landscape. For example, replacing a natural pond with a manufactured pool.





Rehabilitation work in Columbus Park included the South waterfall, cascades, rocky brook and associated landscape in Jens Jensen's most extant and authenticated park in Chicago, Illinois. Recognizing that park visitors would wish to gain access to the water's edge, plant materials were installed with an additional set back and additional stones were provided to accommodate safe passage -- all to insure the health and vigor of new plantings. This work was done while still protecting and maintaining character-defining features, materials and finishes. (Chicago Park District Archives, ca. 1938 and author, 1995)

Alterations/Additions for the New Use

Designing and installing a compatible new water feature when required by the new use to assure the preservation of historic character of the landscape. For example, siting a new retention basin in a secondary, or non-significant space in the cultural landscape.

Placing a new water feature where it may cause damage, or is incompatible with the historic character, such as adding a water slide.

Locating any new water feature in such a way that it detracts from or alters the historic character of the landscape. For example, installing a "period" fountain where one never existed.

Introducing a new water feature which is in an appropriate location, but is visually incompatible in terms of its shape, edge, and bottom condition/material; or water level, movement, sound, and reflective quality. For example, introducing a wading pool in a non-significant space, but utilizing non traditional materials and colors.



The Polly Pond in Downing Park in Newburgh, New York, had lost its historic shape over time through various reconfigurations. [top right] The pond also suffered from declining water quality and siltation. As part of a rehabilitation project, the water feature was reconfigured to better reflect its historic form and alignment [top left] ca. 1905. Modern intrusions at the water's edge were also removed at this time, [bottom] and the pond's edge was stabilized to accommodate contemporary use. (LANDSCAPES and Downing Park Planning Committee)

STRUCTURES, FURNISHINGS AND OBJECTS**Identify, Retain, and Preserve Historic Features and Materials***Recommended*

Identifying, retaining and preserving existing buildings, structures, furnishings and objects prior to beginning project work. For example, gazebos and bridges, playground equipment and drinking fountains, benches and lights, and statuary and troughs. Documenting the relationship of these features to each other, their surrounds, and their material compositions.

Evaluating the condition and determining the age of structures, furnishings and objects. For example, utilizing Historic Structure Inventories and historic aerial photographs to understand the relationship of barns, windmills, silos and water troughs in a ranch compound or the placement of light standards and benches along park paths.

Retaining the historic relationships between the landscape and its buildings, structures, furnishings and objects.

Not Recommended

Undertaking project work that impacts buildings, structures, furnishings, and objects without executing an "existing conditions" survey.

Undertaking work without understanding the significance of structures, furnishings and objects. For example, removing an arbor that defines the axis of a garden or fence posts that delineate the limits of a vineyard.

Removing or relocating structures, furnishings and objects, thus destroying or diminishing the historic relationship between the landscape and these features. For example, relocating a bridge from its historic crossing point or relocating a historic flagpole to a new location.



As part of a preservation plan for Magnolia Cemetery, Charleston, South Carolina, all iron fences and burial markers were evaluated for their existing physical condition. (author, 1994)

Protect and Maintain Historic Features and Materials

Protecting and maintaining buildings, structures, furnishings and objects by use of non-destructive methods and daily, cyclical and seasonal tasks. This may include rust or limited paint removal, and reapplication of protective coating systems. For example, painting metal wrought iron fences or repointing masonry to match original mortar material, color and profiles.

Failing to undertake preventive maintenance for structures, furnishings and objects, resulting in their damage or loss. For example, failing to stop water infiltration at roofs and foundations.

Utilizing maintenance practices and materials that are harsh, abrasive, or unproven. For example, using only aggressive and potentially damaging cleaning methods such as grit blasting on wood, brick, or soft stone or using harsh chemicals on masonry or metals.



As part of a recent landscape inventory, small-scale features that illustrate past farming technologies, such as this hay rake [top left] at the Ozark National Scenic Riverways, have been documented. (courtesy NPS) This historic light pole base [with an acanthus leaf motif] in Chicago's Washington Park [opposite right] has been carefully maintained and protected. The historic fixture serves as a rare surviving prototype for the park, almost all of which have been lost over time. (author, 1992) The same approach has also been taken for this cobblestone stoop decoration [above] at a summer cottage along the St. Croix National Scenic Riverway. (courtesy NPS)

Repair Historic Features and Materials

Repairing features and materials of buildings, structures, furnishings or objects by reinforcing historic materials. For example, returning a children's swing to good working order, or reshaping a section of a deformed monkey bar.

Replacing or destroying a feature of structures, furnishings or objects when repair is possible. For example, replacing a pavilion's tile roof with physically or visually incompatible roofing; or, removing a non-working historic light fixture, rather than rewiring it.

Replace Deteriorated Historic Materials and Features

Using existing physical evidence of form, material and detailing to reproduce a deteriorated structure, furnishing or object. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, replacing a cast stone bench with a new casting from the original mould.

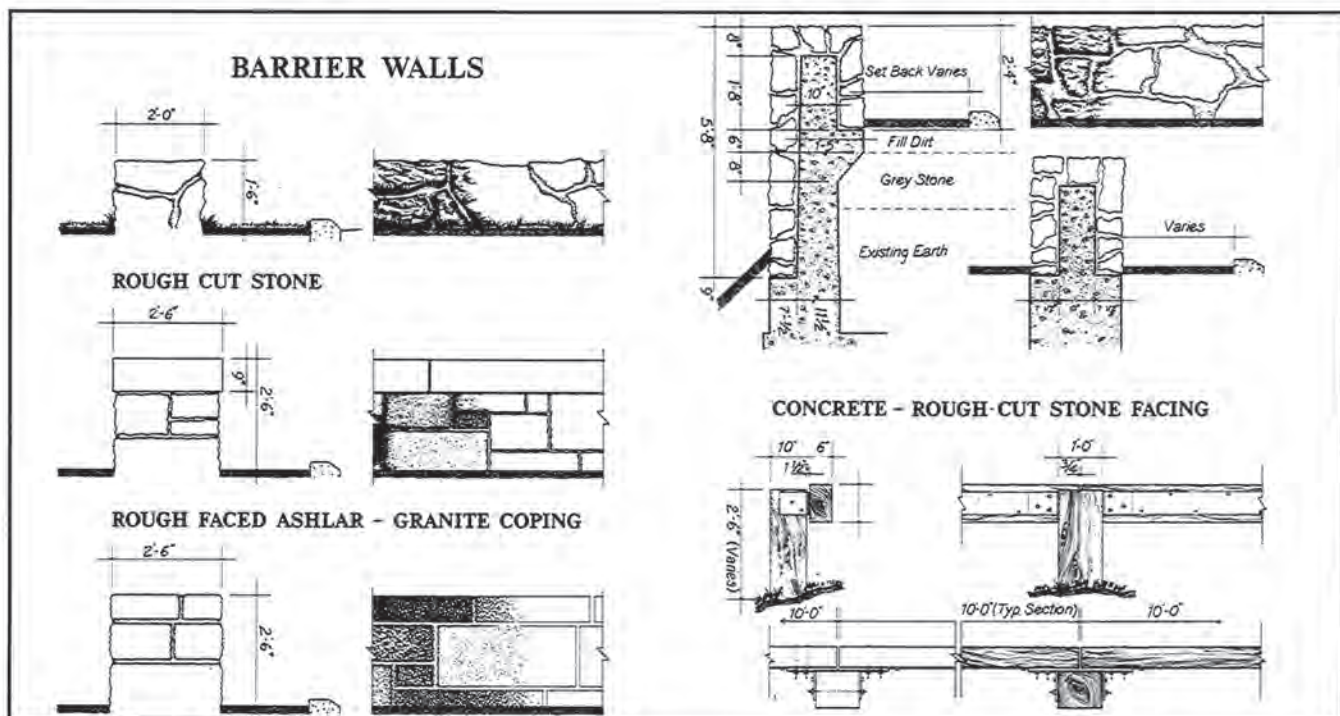
Removing a structure, furnishing, or object that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, removing a wooden rustic footbridge and replacing it with a concrete bridge.

Design for the Replacement of Missing Historic Features

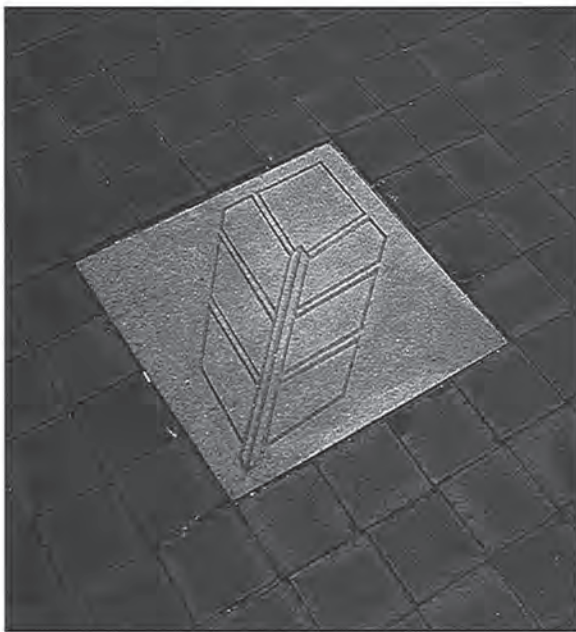
Designing and installing new structures, furnishings and objects when the historic features are missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the historic character of the landscape. For example, replacing a picnic shelter with one of a new compatible design.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

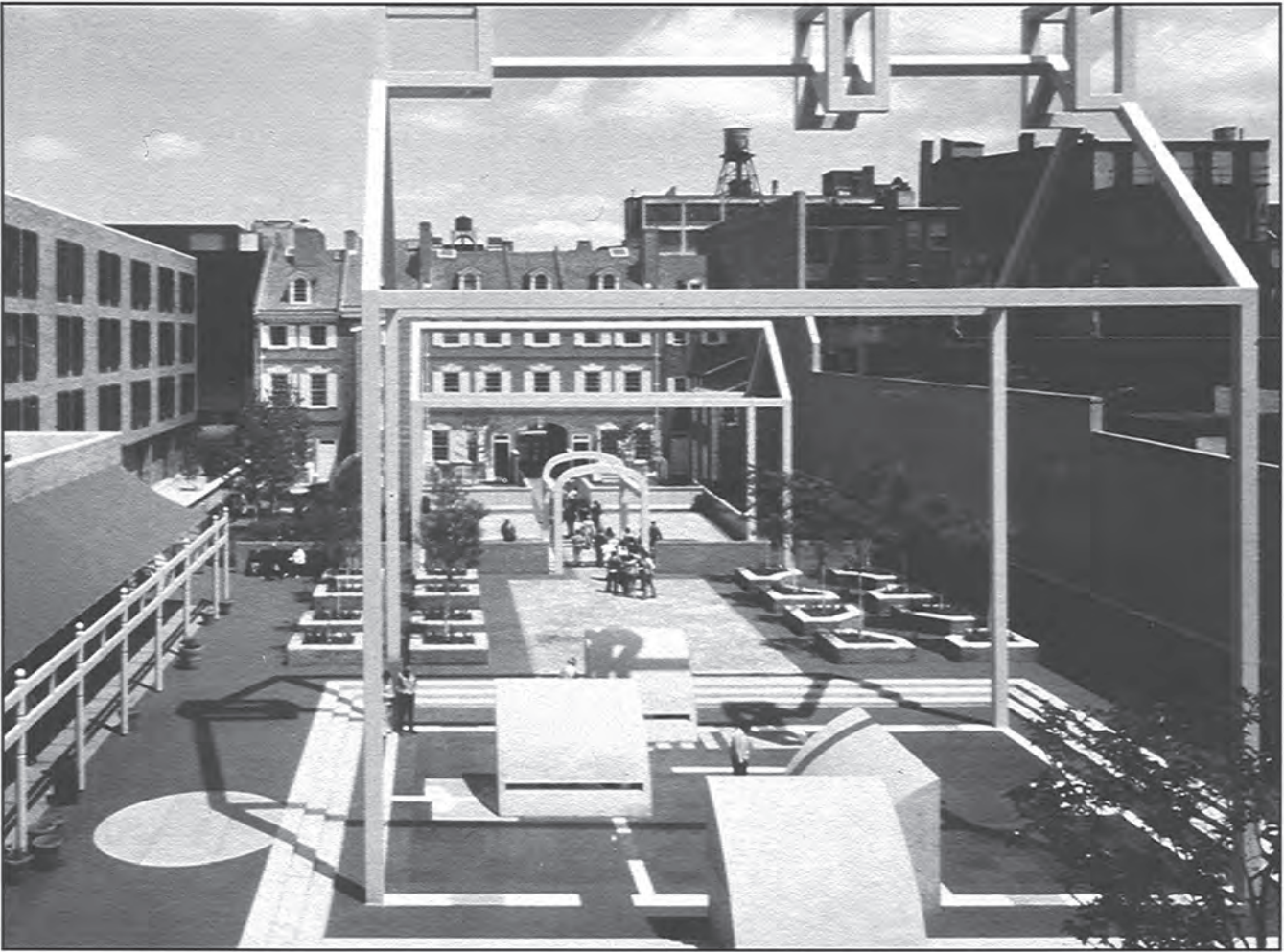
Introducing a new design that is incompatible with the historic character of the landscape. For example, replacing a lost wooden fence with chain link fence.



All parkway furnishings along the George Washington Parkway were inventoried prior to rehabilitation work. The parkway, which spans over forty years of construction between 1929 and 1970, includes a variety of construction techniques for its barrier walls. These construction details are now being utilized to aid in current repair work. (HABS)



The siting and treatment of furnishings should always be carefully considered. Here at "Eagle's Nest," the Vanderbilt estate in Centerport, Long Island [top], the visitor's first impression consists of randomly sited feces, objects and signage. As illustrated by this "not recommended" example, not all additions need to be on a large scale to compromise the integrity of a resource. Often, to aid in a landscape's interpretation, discrete signage, markers, or wayside stations may be added—and their siting should be carefully considered. Successful examples here include a carefully placed sign, such as this wayside station, that interprets "The Pastoral Zone" at Point Reyes, California [center right]; a trail route marker, such as this granite feather leaf, that interprets downtown Asheville, North Carolina's Art Deco Age [above]; or even discrete information kiosks. This one in Central Park orients hundreds of visitors daily and is easily reversible [bottom right].



REHABILITATION



For some landscapes that have little remaining integrity, yet significant historical associations, a new design, complete with three-dimensional interpretive tools may highlight a landscape's history to a visiting public. Two representative examples include Franklin Court and Welcome Park in Philadelphia, Pennsylvania. These solutions include the "ghosting" of historic structures based on archeological investigations, on three-dimensional objects, and a variety of signage.

Alterations/Additions for the New Use

Designing and installing a new structure, furnishing or object when required by the new use, which is compatible with the preservation of the historic character of the landscape. For example, constructing a new farm out-building utilizing traditional building materials or installing appropriately scaled and detailed signage.

Placing a new structure, furnishing, or object where it may cause damage, or is incompatible with the historic character of the landscape. For example, constructing a new maintenance facility in a primary space.

Locating any new structure, furnishing or object in such a way that it detracts from or alters the historic character of the landscape. For example, installing a "period" gazebo that was never present in the cultural landscape.

Introducing a new structure, furnishing or object in an appropriate location, but making it visually incompatible in mass, scale, form, features, materials, texture or color. For example, constructing a visitors' center that is incompatible with the historic character of the cultural landscape.



A section of the wall surrounding the Dorchester North Burying Ground in Massachusetts was in a state of advanced deterioration. [top] Rather than reconstruct the failing wall along the main entrance area, only its piers were replaced. [bottom left] The area of wall between these piers was replaced with an iron fence. [bottom right] This approach was selected to improve the perceived safety and security of the burial ground, thus allowing for visual access into the burial ground, where it was previously enclosed. (author, 1993 and Boston Parks)



As part of a comprehensive rehabilitation project for Prospect Park's Long Meadow, in Brooklyn, New York, a non-historic ball field was relocated to minimize its impact on the great greensward. Here, the backstop and associated fences are realigned along a woodland edge. The new fencing is limited in scope, and painted black to recede into the viewshed. (Prospect Park Alliance)

Although the work in the following sections is quite often an important aspect of rehabilitation projects, its is usually not part of the overall process of rehabilitating character-defining features (maintenance, repair and limited replacement); rather, such work is assessed for its potential negative impact on the landscape's historic character. For this reason, particular care must be taken not to obscure, alter, or damage character-defining features.

ACCESSIBILITY CONSIDERATIONS

Identifying the cultural landscape's character-defining features, materials and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a way that character-defining features, materials and finishes are preserved. For example, widening existing stone walks by adding new stone adjacent to it to achieve the desired width.

Working with local accessibility and preservation specialists to determine the most appropriate solution to access problems which will have the least impact on character-defining features.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving character-defining landscape features, materials and finishes. For example, incorporating wider sidewalks only at intersections where ramps are being installed, leaving the main runs of historic sidewalks in place.

Undertaking code-required alterations before identifying those features, materials and finishes which are character-defining and must therefore be preserved.

Damaging or destroying character-defining features in attempting to comply with accessibility requirements. For example, paving over gravel walks with blacktop.

Altering, character-defining features, materials and finishes without consulting with local experts.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of character-defining landscape features, materials and finishes. For example, replacing three foot wide stone, brick, or historic concrete sidewalks with new wider concrete sidewalks



This accessibility solution for Denver, Colorado's Civic Center, retains character-defining features and visual relationships. The new ramp is not visible from the plaza's east-west vista and, thus, respects its symmetrical design. (author, 1993)

Finding solutions to meet accessibility requirements that minimize the impact on the cultural landscape, for example, retaining the original character-defining entrance steps and placing the access ramp at a side or secondary entrance.

Making modifications for accessibility without considering the impact on the cultural landscape. For example, introducing a new access element (ramp or lift) that destroys the symmetry of a foundation planting along a building's main facade.

HEALTH AND SAFETY CONSIDERATIONS

Identifying the cultural landscape's character-defining features, materials and finishes so that code-related work will not result in their damage or loss.

Complying with health and safety code requirements in such a manner that character-defining features, materials and finishes are preserved. For example, recognizing standards for the application of herbicides.

Removing toxic materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading character-defining features to meet health and safety codes in a manner that assures their preservation. For example, upgrading a historic stairway without destroying its character-defining handrails and balustrades.

Installing safety-related systems that result in the retention of character-defining features, materials, and finishes; for example, fire-suppression systems or seismic retrofits.

Applying the necessary materials to add protection to character-defining features, materials and finishes. For example, applying fire retardant, intumescent paint coatings to a deck to add thermal protection to its steel.

Adding new features to meet health and safety codes in a manner that preserves adjacent character-defining features, materials and finishes. For example, providing a new fire access route along a derelict historic corridor.

Undertaking code-required alterations before identifying those features, materials and finishes which are character-defining and must therefore be preserved.

Altering, damaging or destroying character-defining features, materials and finishes while making modifications to a cultural landscape to comply with safety codes.

Destroying a cultural landscape's character-defining features, materials and finishes without careful testing and without considering less invasive abatement methods.

Removing unhealthful materials without regard to personal and environmental safety.

Making changes to cultural landscapes without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to character-defining features, materials and finishes.

Damaging or obscuring character-defining features, materials and finishes or adjacent areas in the process of doing work to meet code requirements.

Covering character-defining features with fire resistant sheathing which results in altering their visual appearance.

Using materials intended to provide additional protection, such as fire-retardant coatings, if they damage or obscure character-defining features, materials and finishes.

Radically changing, damaging or destroying character-defining features, materials and finishes when adding new code-required features.

ENVIRONMENTAL CONSIDERATIONS

Identifying the cultural landscape's character-defining features, materials and finishes so that environmental protection-required work will not result in their damage or loss.

Complying with environmental protection regulations in such a manner that character-defining features, materials and finishes are preserved. For example, protecting historic vegetation in which rare and endangered species nest.

Working with environmental protection officials to investigate systems, methods, devices or technologies of equivalent or superior effectiveness to those prescribed by regulation so that unnecessary alterations can be avoided.

Reclaiming or re-establishing natural resources in a manner that promotes the highest degree of environmental protection, while preserving significant historic features, materials and finishes. For example, reclaiming a wetland to comply with applicable environmental regulations, while re-establishing the feature as it appeared historically.

Undertaking environmental protection-required work before identifying those features, materials and finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining features, materials and finishes while making modifications to a cultural landscape to comply with environmental protection regulations.

Making changes to cultural landscapes without first exploring equivalent environmental protection systems, methods, devices or technologies that may be less damaging to historic features, materials and finishes.

Making environmental protection modifications that do not provide a reasonable balance between improved environmental conditions and the preservation of historic features, materials and finishes.

ENERGY EFFICIENCY

Retaining and maintaining those energy efficient features or parts of features of the landscape. For example, maintaining vegetation which performs passive solar energy functions.

Improving energy efficiency of existing features through non-destructive means. For example, utilizing a recirculating system in a fountain rather than uncontrolled discharge to a storm system.

Removing or altering those features or parts of features which play an energy conserving role. For example, removing a historic windbreak.

Replacing energy inefficient features rather than improving their energy conservation potential. For example, replacing an entire historic light standard rather than retrofitting the fixture to be more efficient.

Standards for Restoration & Guidelines for Restoring Cultural Landscapes

When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.

Standards for Restoration

Restoration is 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. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

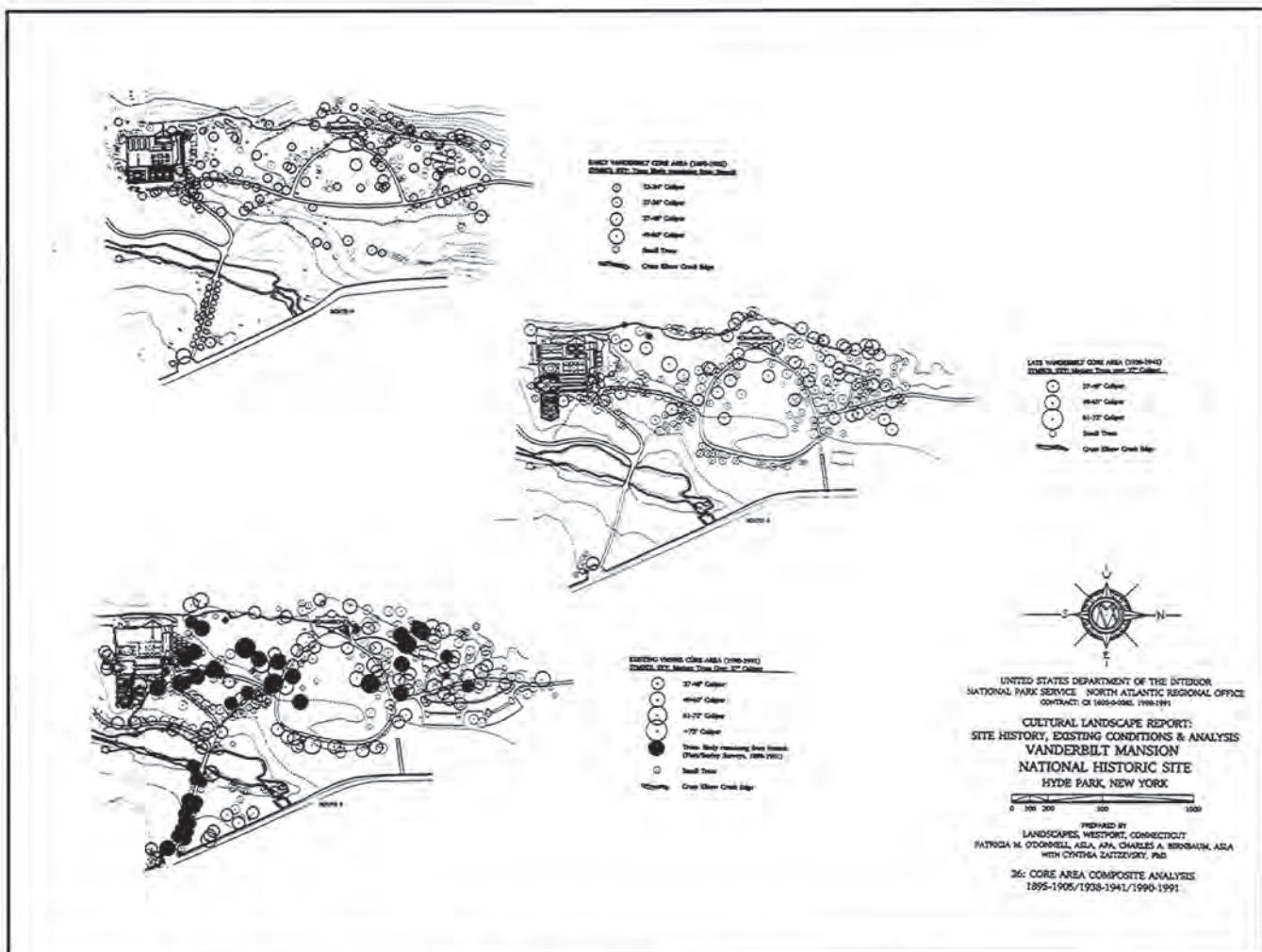
1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.
2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.
8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
10. Designs that were never executed historically will not be constructed.

Introduction

Rather than maintaining and preserving a landscape as it has evolved over time, the expressed goal of the **Standards For Restoration and Guidelines for Restoring Cultural Landscapes** is to make the landscape appear as it did at a particular—and most significant—time in its history. First, those materials and features from the “restoration period” are identified, based on thorough historical research. Next, features from the restoration period are maintained, protected, repaired (i.e., stabilized, consolidated, and conserved) and replaced, if necessary. As opposed to other treatments, the scope of work in **Restoration** can include removal of features from other periods; missing features from the restoration period may be replaced, based on documentary and physical evidence, using traditional materials or compatible substitute materials. The final guidance emphasizes that only those designs that can be documented as having been built should be re-created in a restoration project.

Identify, Retain, and Preserve Materials and Features from the Restoration Period

The guidance for the treatment **Restoration** begins with recommendations to identify the form and detailing of those existing materials and features that are significant to the restoration period as established by historical research and documentation. Thus, guidance on **identifying, retaining, and preserving** features from the restoration period is always given first. An overall evaluation of existing conditions should always begin at this level. The character of a cultural landscape is defined by its spatial organization and land patterns; features such as topography, vegetation, and circulation; and materials, such as an embedded aggregate pavement. This step must include archival research, survey of existing conditions and the development of period plans.



❏ Protect and Maintain Materials and Features from the Restoration Period

After identifying those existing materials and features from the restoration period that must be retained in the process of **Restoration** work, then **protecting and maintaining** them is addressed. Protection generally involves the least degree of intervention and is preparatory to other work; it may be accomplished through permanent or temporary measures. Such actions could include the installation of temporary fencing around a vulnerable earthwork. Maintenance includes daily, seasonal, and cyclical tasks, and the techniques, methods and materials used to implement them. Repointing a stone burial marker from the restoration period is one example.

Once a **restoration** has been undertaken, an increased commitment to sustain the restoration period appearance will be necessary. Because of the dynamic nature of some features, particularly topography, vegetation and water, a landscape will exhibit cyclical changes, growth, and reproduction. Therefore, in some cases, maintenance efforts may need to be more elaborate.

❏ Repair Features and Materials from the Restoration Period

Next, when the physical condition of parts of features from the restoration period requires additional work, **repairing is recommended**. **Restoration** guidance focuses on those features and materials that are significant to the period. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible, such as strengthening fragile or crumbling materials through consolidation (ex. Applying an inorganic substance such as barium hydroxide to friable masonry or applying epoxy consolidants to extensively deteriorated wood), when appropriate, and repointing with mortar of an appropriate strength. Repairing includes patching, splicing, or otherwise reinforcing materials using recognized preservation methods. Similarly, portions of a historic structural system of a footbridge could be reinforced using contemporary material such as steel rods. In **Restoration**, repairing may also include the limited replacement in-kind of extensively deteriorated materials or *parts* of features, and using surviving prototypes as a model. Using material which matches the old in design, color, and



Commemorative markers, such as this one that notes the emigrant graves at Robidoux Pass on the Oregon Trail, (near Scotts Bluff National Monument, Nebraska) were installed by the Daughters of the American Revolution. The historic marker and graves have been protected with a perimeter wire-woven fence. (courtesy NPS)

texture is always the preferred option; however, substitute material is acceptable if the new material conveys the same visual appearance as the historic period. Creating a mold of an iron fence finial to replace another finial that is extensively deteriorated is one example.

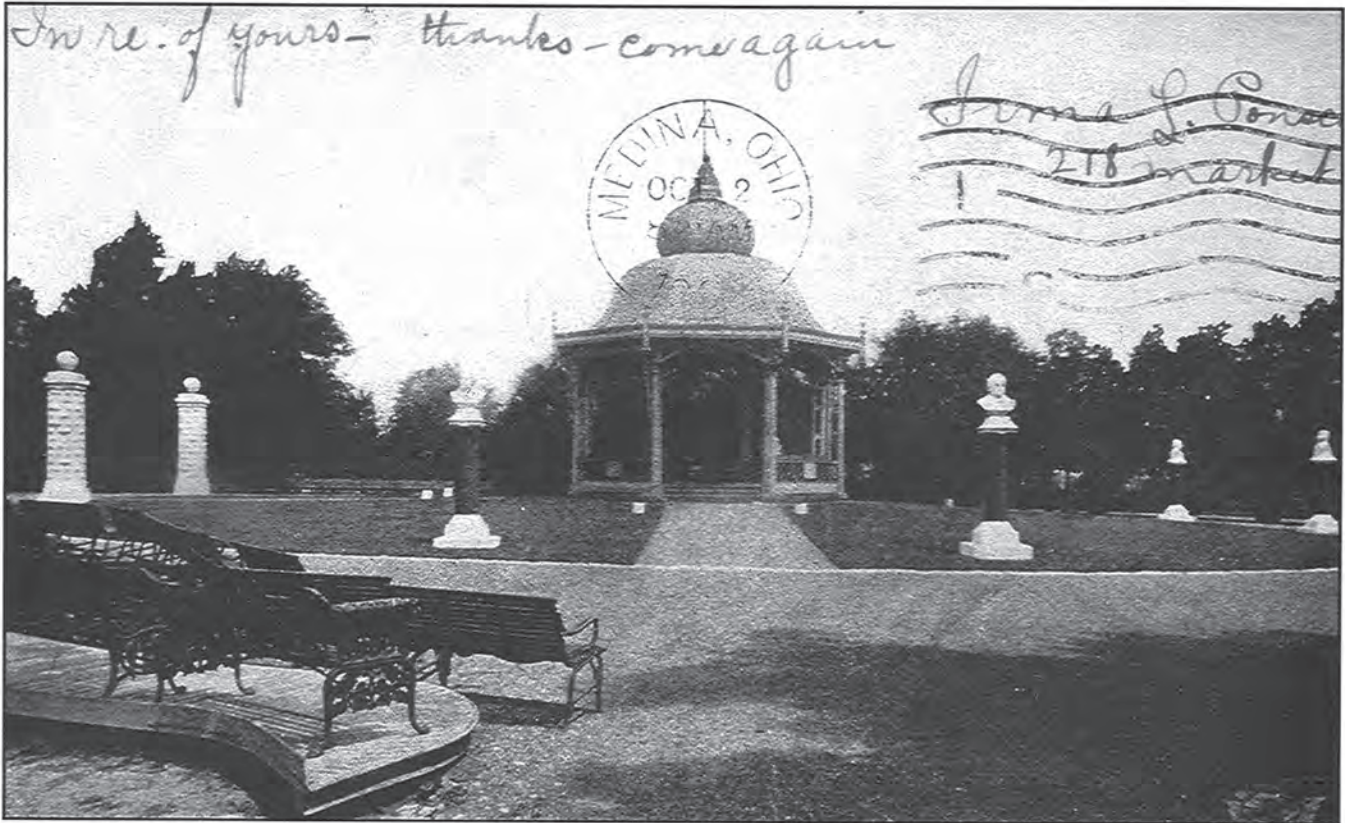
✎ **Replace Extensively Deteriorated Features from the Restoration Period**

In **Restoration**, *replacing* an entire feature from the restoration period, such as an arbor, pool, or bench, that is too deteriorated to repair may be appropriate. Together with documentary evidence, any remaining physical fabric of the historic feature should be used as a model for the replacement. Using the same kind of material is preferred; however, compatible substitute material may be considered. When possible, new work should be unobtrusively dated to guide future research and treatment.

If documentary and physical evidence are not available to provide an accurate re-creation of missing features, the treatment **Rehabilitation** might be a better overall approach to project work.



A section of a historic wall at Stan Hywet Hall in Akron, Ohio, was in need of restoration. Here, the limited replacement of a section of the wall was undertaken utilizing surviving stone and stones that matched the old in form, size, and color. Compatible substitute material could also have been used. (author, 1993)



The area known as the music pavilion at Tower Grove Park in St. Louis, Missouri, had been badly deteriorated including its central pavilion, marble busts, radiating walks, lawn areas and curbing. Utilizing photographic documentation, [top] the pavilion [opposite top right] and its associated landscape were restored to portray the pavilion as it would have appeared at a certain time. For example, the marble busts of eminent composers were replaced with pre-cast concrete replicas of the originals [bottom, foreground]. (Tower Grove Park)

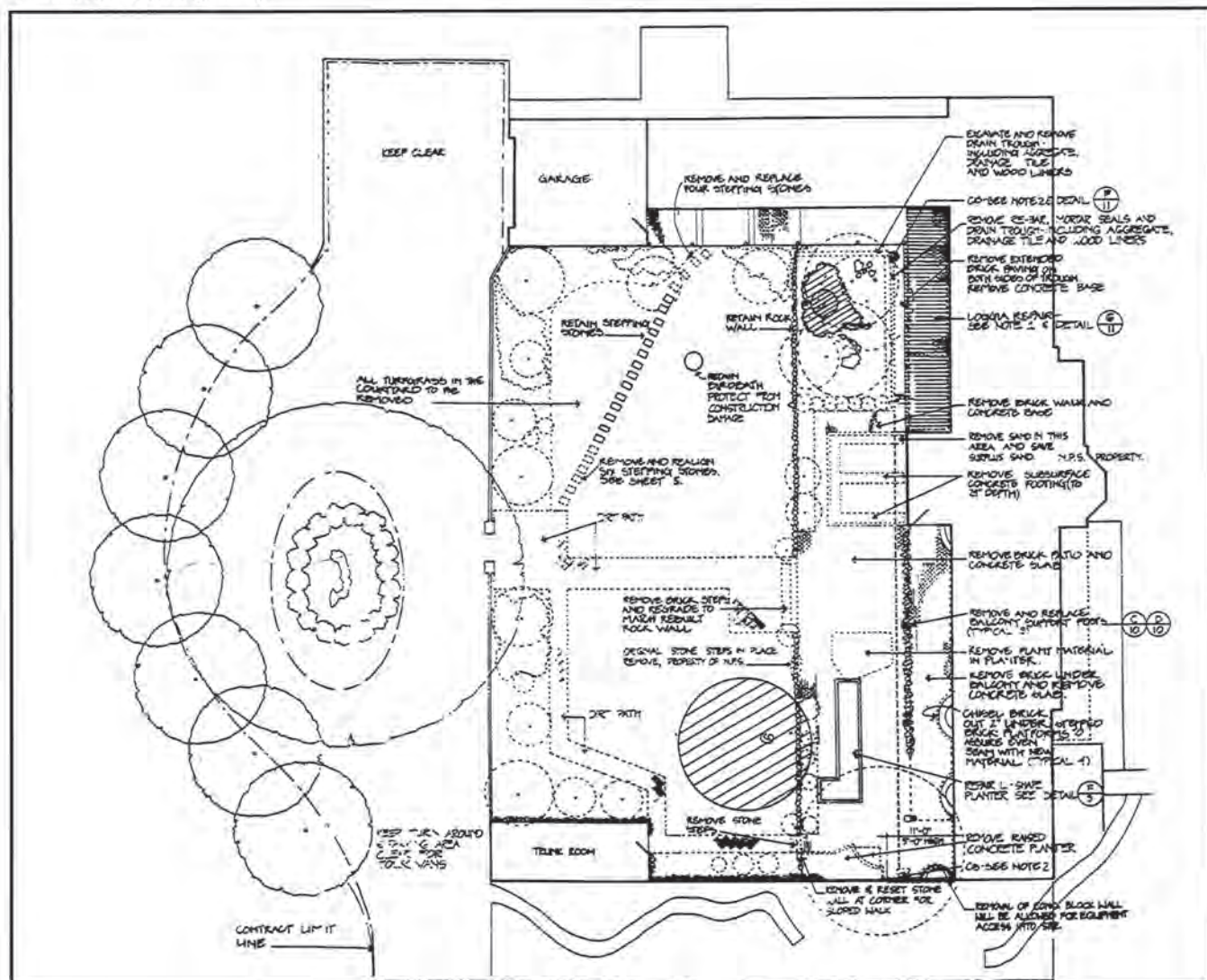
Remove Existing Features from Other Historic Periods

All cultural landscapes represent a continuum over time, but in **Restoration**, the goal is to depict the landscape as it appeared during a particular time in its history. Thus, work is included to remove or alter existing historic features that do not represent the restoration period. This could include features such as parking lots, modern farm equipment or timberform play structures. Prior to removing or altering spatial organization and land patterns; and features and materials that characterize other historic periods, they should be documented to guide future research and treatment.

This Demolition Plan, prepared as part of the restoration for the Tao House Courtyard, at the Eugene O'Neill National Historic Site [below] in Danville, California, reflects the removal of features that were built after the period of significance. Those features removed, including walks, steps, patio and plant materials, may be attributed to a later design by landscape architect Ted Osmundson. (courtesy NPS)

Re-Create Missing Features from the Restoration Period

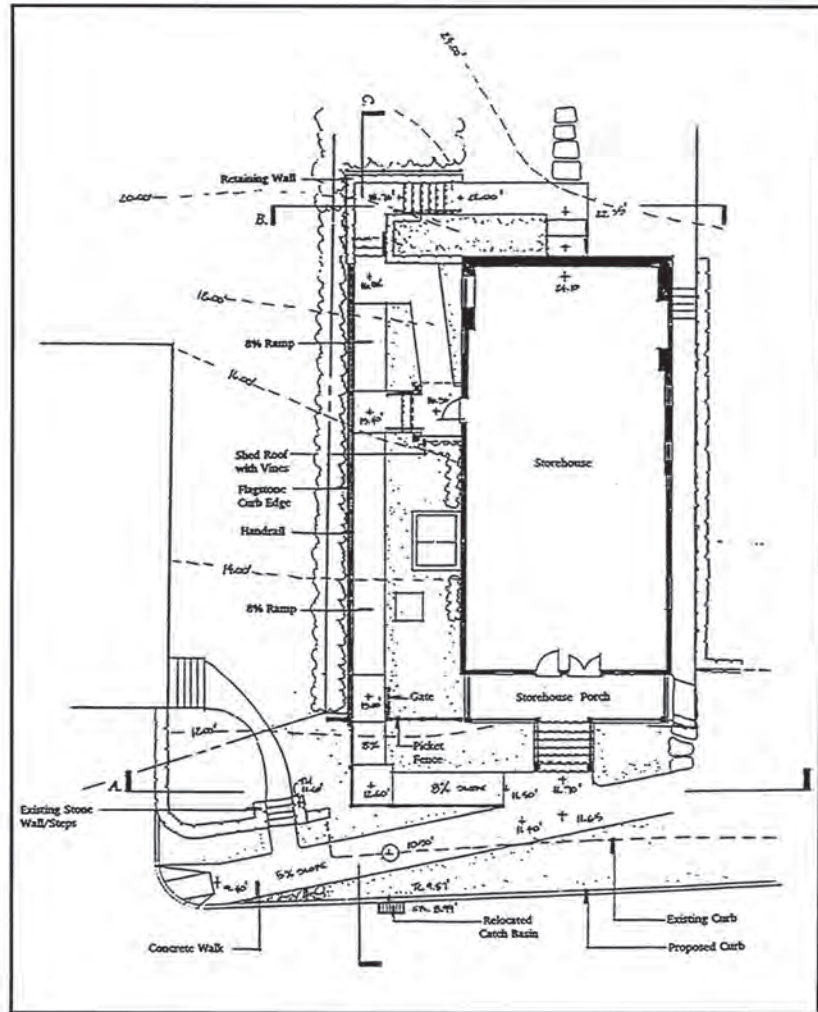
Most **Restoration** projects involve re-creating features that were significant to the landscape at a particular time, but are now missing. Examples could include a lost outbuilding, path or fence. Each missing feature should be substantiated by documentary and physical evidence. Without sufficient documentation for these "re-creations," an accurate depiction cannot be achieved. Combining features that never existed together historically can also create a false sense of history. Using traditional materials to depict lost features is always the preferred approach; however, using compatible substitute material is an acceptable alternative in **Restoration** because, as emphasized, the goal of this treatment is to replicate the "appearance" of the cultural landscape at a particular time, not to retain and preserve all historic materials as they have evolved over time.



If documentary and physical evidence are not available to provide an accurate recreation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

✧ Accessibility Considerations/ Health and Safety Considerations/ Environmental Considerations and Energy Efficiency

These sections of the **Restoration** guidance address work done to meet accessibility requirements; health and safety code; environmental requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing features from the restoration period; rather, such work is assessed for its potential negative impact on the landscape's character. For this reason, particular care must be taken not to obscure, damage, or destroy historic materials or features from the restoration period in the process of undertaking work to meet code and energy requirements.



This small footbridge in Central Park's Ramble [above] has been re-created on the basis of historic documentation. The new bridge meets current code requirements, yet replicates the historic appearance, while utilizing compatible substitute materials. (Central Park Conservancy) The selected treatment for the landscape at the J. L. Bush Storehouse Property, Greenwich, Connecticut, [top] is restoration to the impressionist painters' period. Here, sensitive grading preserved historic landscape features while providing access on the alignment of the original path. For example, grade relationships to the historic building and hedge have been retained. (LANDSCAPES)

Guidelines for Restoring Cultural Landscapes



SPATIAL ORGANIZATION AND LAND PATTERNS

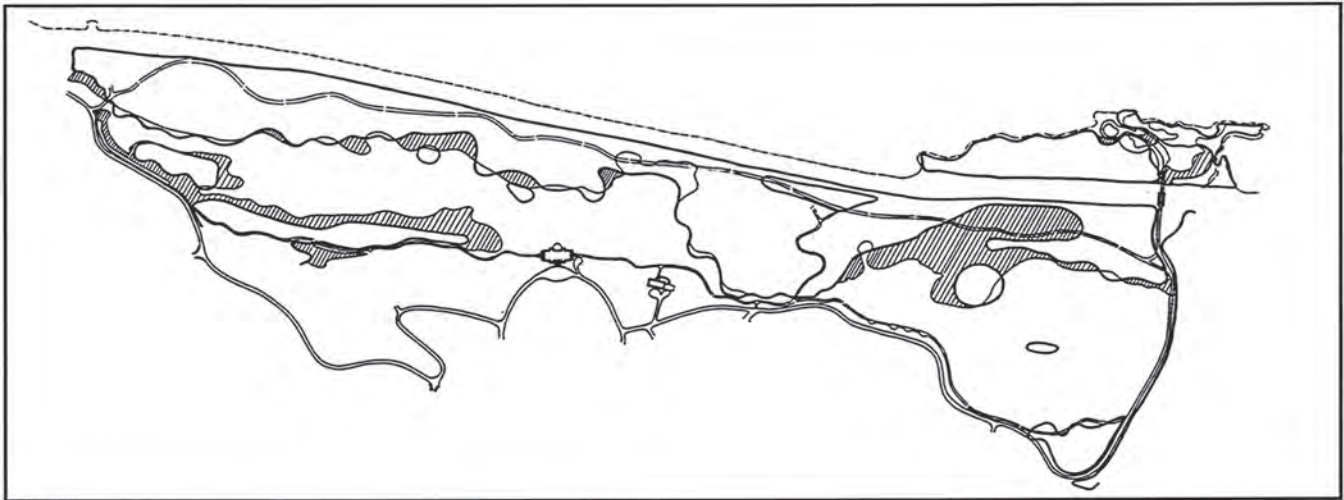
Identify, Retain, and Preserve Historic Materials and Features from the Restoration Period

Recommended

Identifying, retaining and preserving the existing spatial organization and land patterns of the landscape from the restoration period. Prior to beginning project work, documenting all features which define those relationships. This includes the size, configuration, proportion and relationship of component landscapes; the relationship of features to component landscapes; and the component landscapes themselves such as a terrace garden, a farmyard, or forest-to-field patterns.

Not Recommended

Undertaking project work without understanding the effect on the existing spatial organization and land patterns. For example, constructing a structure that creates new spatial divisions or not researching an agricultural property's development history.



The spatial organization and land patterns of the 211-acre landscape at the Vanderbilt Mansion National Historic Site in Hyde Park, New York, woodland edges are being restored. This historic aerial photograph from the 1930s, [above] provides excellent documentation of the spatial organization during the landscape's period of significance from 1830-1939. Project work re-establishing lost meadow areas that were overtaken from 1939 to the present are illustrated on the treatment plan. [top] (Vanderbilt Mansion National Historic Site and LANDSCAPES)

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining features that define spatial organization and land patterns from the restoration period by non-destructive methods in daily, seasonal and cyclical tasks. For example, maintaining topography, vegetation, and structures which comprise the overall pattern of the cultural landscape.

Allowing spatial organization and land patterns from the restoration period to be altered, for example, through incompatible development or neglect.

Utilizing maintenance methods which destroy or obscure the landscape's spatial organization and land patterns from the restoration period. For example, allowing field succession to obscure a historic farm and field pattern.

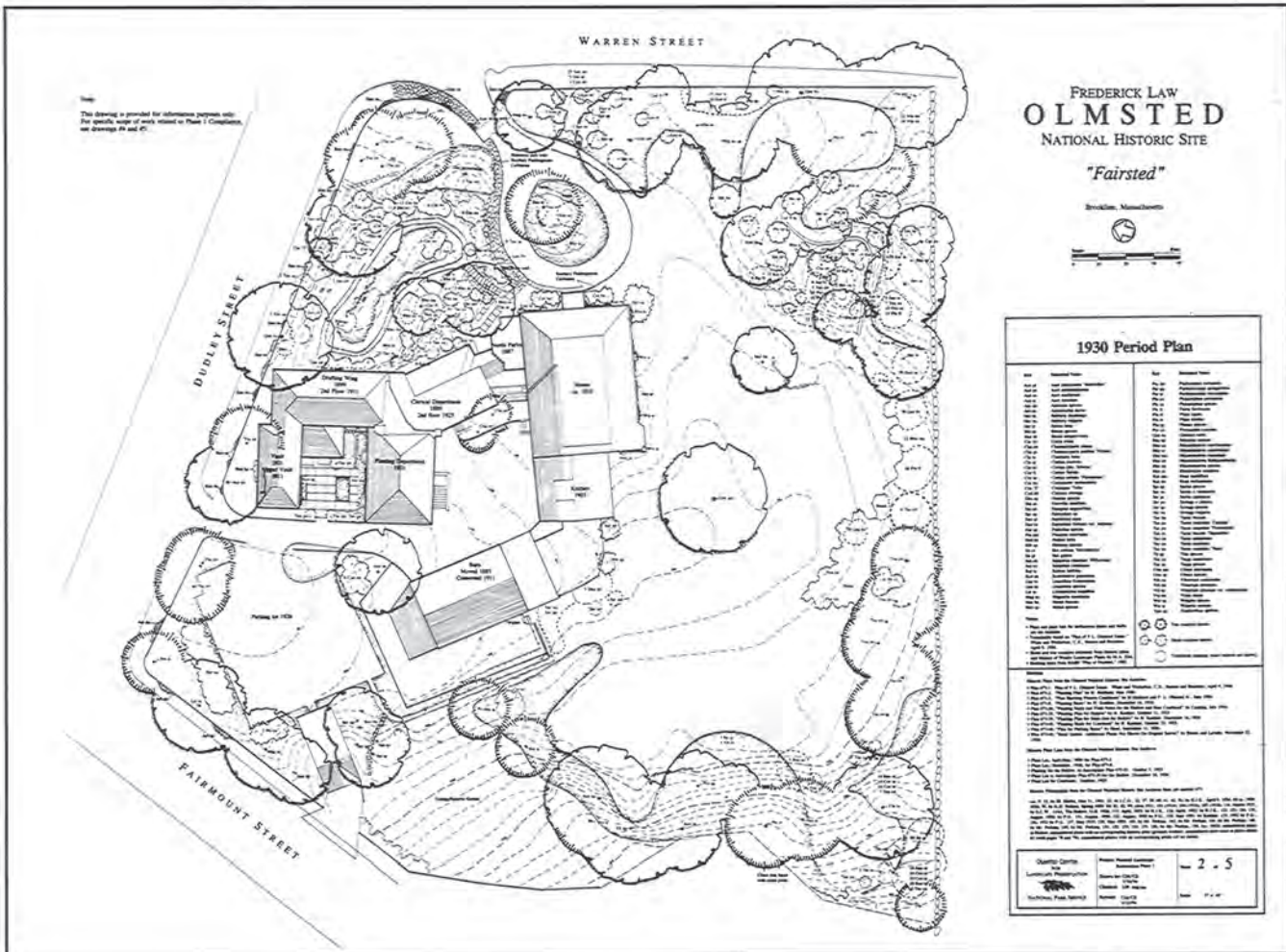
Repair Features and Materials from the Restoration Period

Failing to undertake necessary actions resulting in the loss of spatial organization and land patterns. For example, allowing a post and rail fence to deteriorate.

Replacing a feature from the restoration period that defines spatial organization and land patterns when repair is possible. For example, replacing a hedge when the original hedge could have been pruned to generate new growth.



Until recently, spatial relationships at Stan Hywet Hall had changed due to a lack of maintenance [left]. The view, which has recently been reinstated, creates a strong visual link between the house and the larger landscape, originally designed by Warren H. Manning [right]. (Stan Hywet Hall Foundation)



Replace Extensively Deteriorated Features from the Restoration Period

Replacing in-kind an entire feature from the restoration period that defines spatial organization and land patterns that is too deteriorated to rejuvenate. For example, replanting in-kind an historic orchard.

Removing a feature from the restoration period that is beyond repair and not replacing it; or replacing it with a new feature that does not respect the spatial organization and land patterns of the restoration period. For example, removing a hedgerow and not replanting it.

Remove Existing Features from Other Historic Periods

Removing or altering features from other historic periods that intrude on the historic spatial organization and land patterns. For example, removing a skinned baseball field from a historic meadow.

Failing to remove features from another period, thus confusing the depiction of the cultural landscape's spatial organization and land patterns during the restoration period. For example, failing to remove a chain link fence where no fence historically existed.

Documenting features dating from other periods prior to their removal or alteration. If possible, selected examples of these features and materials should be stored to facilitate future research.

Failing to document features from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.

Re-Create Missing Features from the Restoration Period

Recreating a missing feature important to the spatial organization and land patterns during the restoration period based on historical, pictorial and physical documentation.

Constructing a feature that contributes to the overall spatial organization and land patterns which was thought to have existed during the restoration period, but for which there is insufficient documentation; or, constructing a feature that was part of the original design but was never executed.



Based on historic plans, photographs and tree corings, the ca. 1930 lawn space at the Frederick Law Olmsted National Historic Site in Brookline, Massachusetts, has been recreated through the removal of invasive woody species. [opposite page, top and bottom, and opposite left] (courtesy NPS) Franklin Park's Country Meadow [following page] was one of Olmsted's greatest landscape achievements—as important historically [top] as the meadows and landscapes of New York City's Central Park and Brooklyn's Prospect Park. Soon after the park's completion, the public began playing golf, much to the chagrin of Olmsted. Restoration of the golf course, [bottom] one of the most distinguishing features of the park, re-claims the expansive views and spatial relationships. (FLONHS and Boston Parks & Recreation)





TOPOGRAPHY**Identify, Retain, and Preserve Historic Features and Materials from the Restoration Period***Recommended*

Identifying, retaining and preserving the existing topography from the restoration period. Documenting topographic variation prior to project work, including shape, slope, elevation, aspect and contour. For example, preparing a topographic survey.

Evaluating and understanding the cultural landscape's topography from the restoration period. For example, using archival resources such as plans and aerial photographs or, in their absence, archeological analysis techniques to understand the historic topography.

Not Recommended

Undertaking project work that impacts topography from the restoration period. For example, regrading a cultural landscape without knowledge of historic topography.

Executing project work without understanding its impact on topographic resources from the restoration period. For example, disturbing archaeological resources and watershed systems.

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining topography from the restoration period by use of non-destructive methods and daily, seasonal and cyclical tasks. For example, applying adequate sediment and erosion controls to protect fragile earthworks from the restoration period.

Failing to undertake preventive maintenance for topography from the restoration period.

Utilizing maintenance methods which destroy or degrade topography from the restoration period. For example, using heavily weighted equipment on steep or vulnerable slopes.

Repair Features and Materials from the Restoration Period

Repair declining topographic features from the restoration period. For example, re-excavating a silted swale through appropriate regrading or re-establishing an eroding agricultural terrace.

Destroying the shape, slope, elevation or contour of topography from the restoration period when repair is possible.



For the Central Burying Ground in Boston, Massachusetts [see earlier reference, page 61] the collapsed free-standing mound tomb, the last of its kind remaining in Boston, was successfully repaired. (Boston Parks and Recreation)



Replace Extensively Deteriorated Features from the Restoration Period

Using physical evidence of form and detailing to reproduce in-kind an entire topographic feature from the restoration period. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, re-establishing earthworks around a fort.

Removing a deteriorated topographic feature from the restoration period and not replacing it; or replacing it with a new feature that does not convey the same visual appearance. For example, changing stepped terracing to a curved slope.

Remove Existing Features from Other Historic Periods

Removing or altering topographic features from other historic periods. For example, reshaping knolls to their appearance during the restoration period or removing fill to reveal a hollow.

Documenting topographic features from other periods prior to their alteration or removal.

Failing to remove topographic features from another period, thus confusing the depiction of the landscape during the restoration period. For example, maintaining modern earthen mounds on a historic bowling green.

Failing to document topographic features from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.



Re-Create Missing Features from the Restoration Period

Recreating a missing topographic feature that existed during the restoration period based on historical, pictorial and physical documentation. For example, recreating a trench and fortification from the restoration period based on stratigraphic research.

Creating a topographic feature which is incompatible with the restoration period. For example, constructing a topographic feature that was thought to have existed during the restoration period, but for which there is insufficient information; or, constructing a topographic feature that was part of the original design but was never executed, thus creating a false historic appearance.



*The landscape of the Battle of Gettysburg, Pennsylvania, has evolved dramatically since 1863. [opposite left] Open areas, for example, especially those on rocky ground, were covered with woody plants and Little Round Top became forested with redbud (*Cercis Canadensis*). To restore this topographic feature, [above, prior to treatment] invasive plants were removed to portray the second day battle scene, giving a sense of the landform of the area and the importance of the land to the bloody encounter that transpired there. (courtesy NPS)*

VEGETATION

Identify, Retain, and Preserve Historic Features and Materials from the Restoration Period

Recommended

Identifying, retaining and preserving the existing vegetation from the restoration period prior to project work. For example, woodlands, forests, trees, shrubs, crops, meadows, planting beds, vines and ground cover. Documenting broad cover types, genus, species, caliper, and/or size as well as color, scale, form and texture.

Evaluating the condition and determining the age of vegetation from the restoration period. For example, tree coring to determine age.

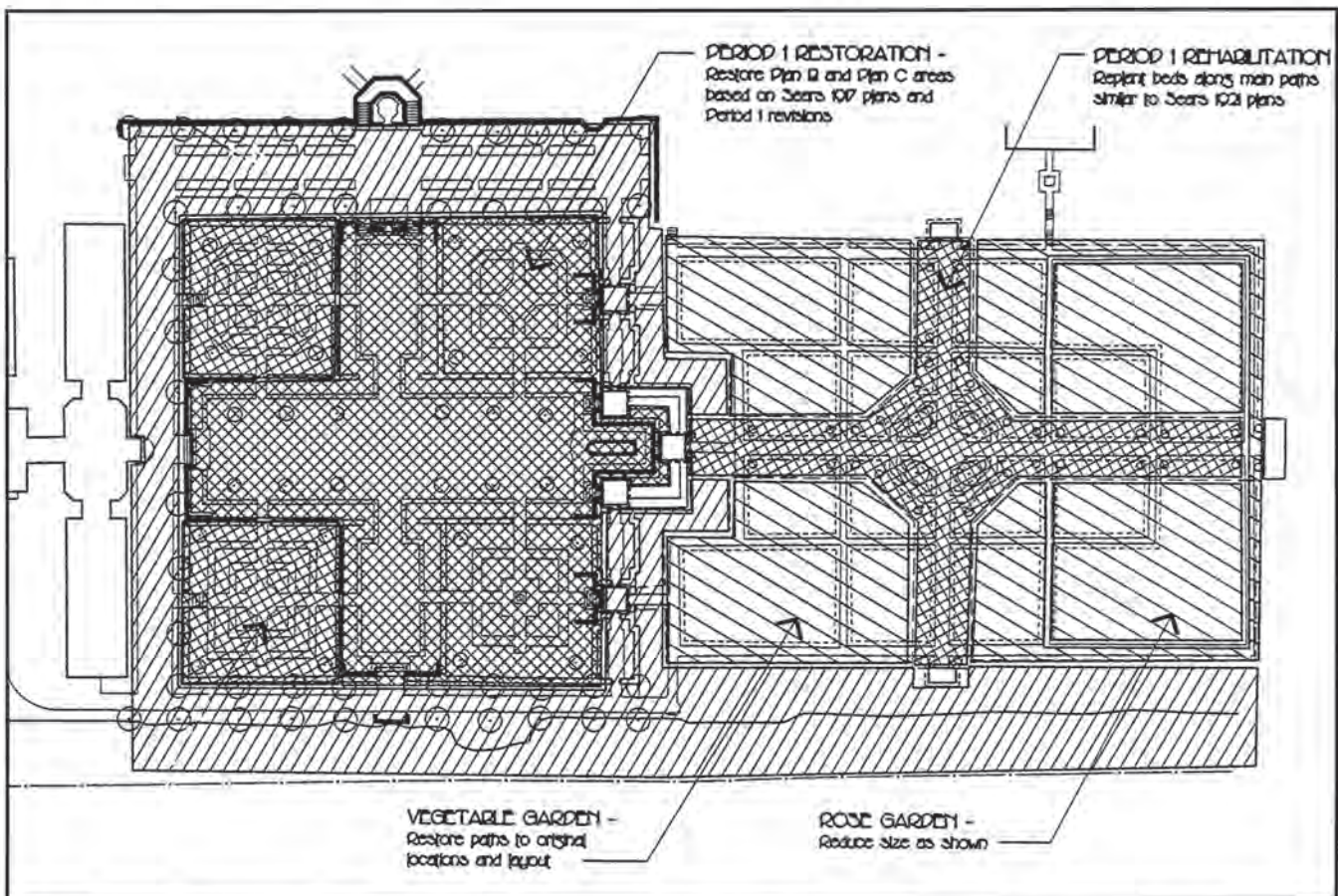
Retaining and perpetuating vegetation from the restoration period through propagation, using methods such as seed collection and genetic stock cuttings.

Not Recommended

Undertaking project work that impacts vegetation from the restoration period without executing an "existing conditions" survey of plant material. For example, deep-tilling soil thus disturbing historic pollen artifacts.

Undertaking work without understanding the significance of vegetation from the restoration period. For example, removing perennial plantings from the restoration period during a clean out of invasive vegetation.

Failing to propagate extant vegetation from the restoration period, when few or no known sources for replacement are available. For example, removing a deteriorating tree without first taking cuttings.



The restoration of Reynolda Gardens at Wake Forest University in Winston-Salem, North Carolina, was based on available historic documentation for the period of significance, the long-term maintenance requirements, the surviving plant materials contained within an individual garden area, and the need to interpret the garden as it looked at one time to the public. (The Jaeger Group)

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining vegetation from the restoration period by use of non-destructive methods and daily, seasonal and cyclical tasks. For example, employing pruning or careful use of herbicides on historic fruit trees.

Utilizing maintenance practices which respect habit, form, color, texture, bloom, fruit, fragrance, scale and context.

Utilizing historic horticultural and agricultural maintenance practices when those techniques are critical to maintaining the integrity of the vegetation from the restoration period. For example, the manual removal of dead flowers to ensure continuous bloom.

Failing to undertake preventive maintenance of vegetation from the restoration period.

Utilizing maintenance practices and techniques which are harmful to vegetation from the restoration period. For example, mowing lawns containing spring bulbs.

Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. For example, utilizing soil amendments which may alter flower color or poorly-timed pruning and/or application of insecticide which may alter fruit production.

Employing contemporary practices when traditional or historic can be used. For example, utilizing non-traditional harvesting practices when traditional practices are still feasible.

Repair Features and Materials from the Restoration Period

Rejuvenating historic vegetation from the restoration period. For example, by corrective pruning, deep root fertilizing, aerating soil, renewing seasonal plantings and/or grafting onto historic genetic stock.

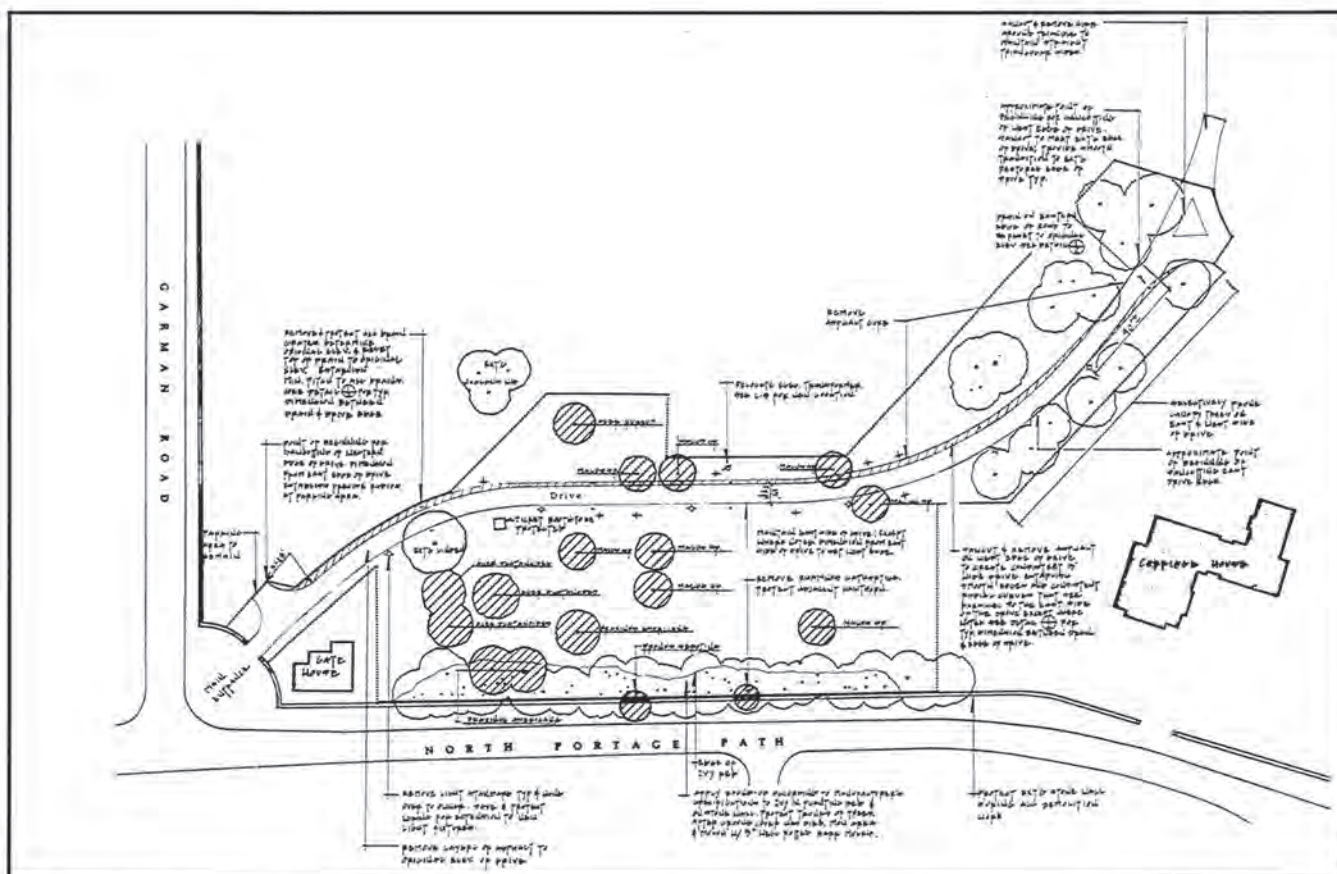
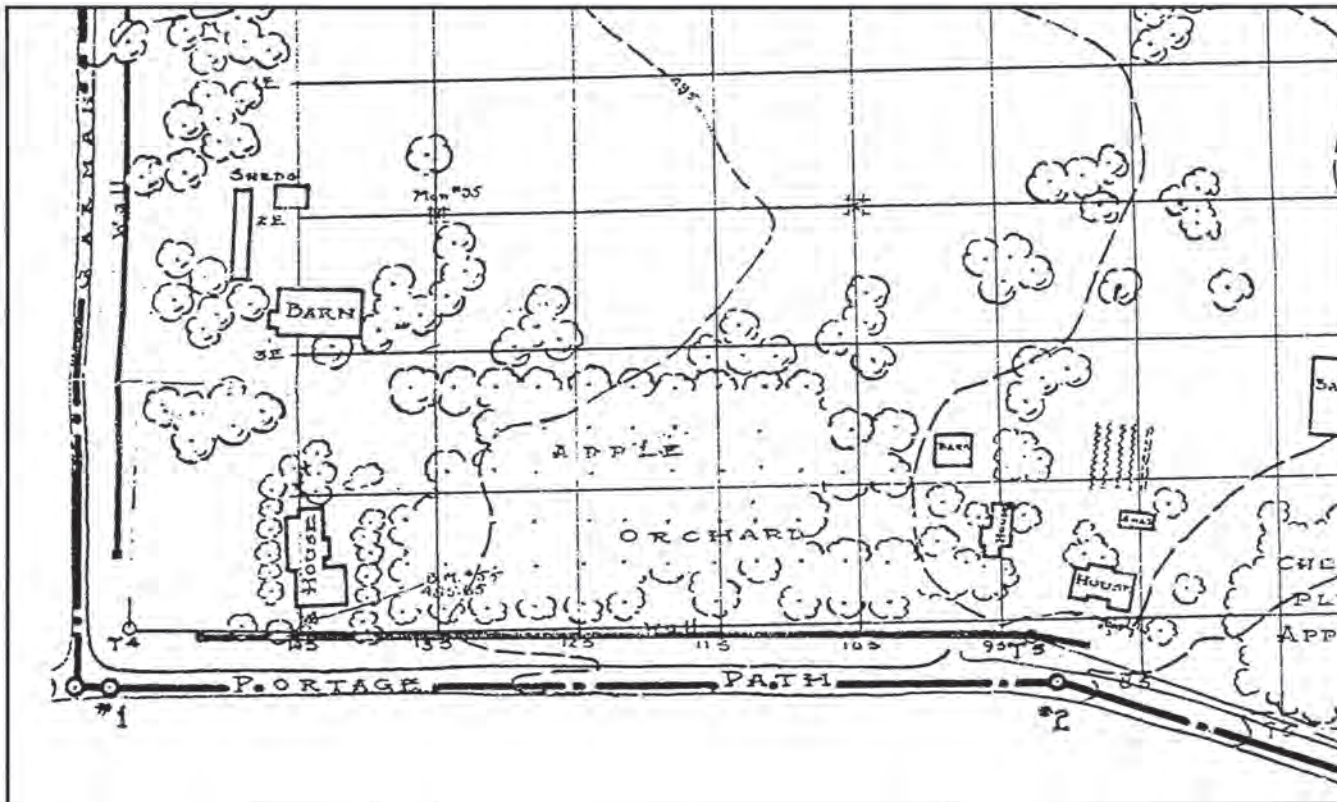
Replacing or destroying vegetation from the restoration period when rejuvenation is possible. For example, removing a matured shrub and replacing with new material when proper pruning may be employed.



When replacing deteriorated or declining vegetation and the same kind of material is not available, then a substitute material may be considered. This material should be of compatible scale, color, form, shape and texture. Considering a mature American elm's pendulous form [left], a Japanese zelkova's vase-like form [right], such a substitution of plant materials would not meet the Standards. (author, 1994)



GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES



The Estate Drive through the Apple Orchard at Stan Hywet Hall, Akron, Ohio, is being restored to a 1913 design by Warren Manning. Based on historic documentation [top] those trees that were inappropriate to the original design were removed [bottom]. (Douglas Reed)

Replace Extensively Deteriorated Features from the Restoration Period

Using existing physical evidence of form, habit or composition to replace a deteriorated or declining vegetation feature from the restoration period. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, replacing a memorial tree with a tree grown from its genetic stock.

Removing vegetation from the restoration period that has deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, removing a blight-ridden hedge and replacing it with pyramidal form trees.

Remove Existing Features from Other Historic Periods

Removing or altering vegetation from other historic periods. For example, removing later foundation plantings or successional woodlot growth.

Documenting vegetation from other periods prior to its alteration or removal. If possible, representative examples of this vegetation should be saved, cultivated and managed, through seed collection and genetic stock cuttings, to facilitate future research.

Failing to remove vegetation from another period, thus confusing the depiction of the landscape during the restoration period. For example, maintaining a lawn on the site of a historic cutting garden.

Failing to document vegetation from other historic periods that is removed or altered so that a valuable portion of the historic record is lost.

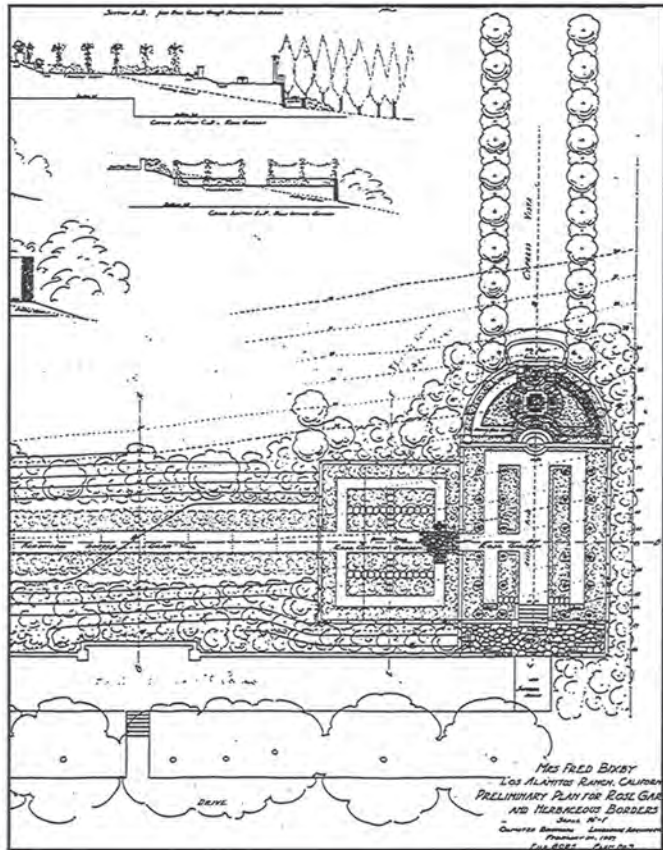


As part of an overall restoration program for each of the gardens at Rancho Los Alamitos in Long Beach, California, close attention has been paid to its vegetation features. The Old Garden [1928 and 1996] was overtaken by 40' of bamboo timber. [top left and right] Here, efforts include replanting the original boxwood hedge, propagating and replanting genetic stock from the remaining bananas and replanting and training cypress to a hedge-form. The Rose Garden has been restored [page 112] including replacing in-kind the original rose trees (only one survived) using the original 1927 plan by the Olmsted Brothers [1928, 1995 and 1996]. The Cutting Garden has also been restored, [above left and right] which until recently had been maintained as a herb garden. A recent discovery of these plans allowed for the restoration of the garden including its herbaceous materials and even the design of the garden bench [1994 and 1996]. (Rancho Los Alamitos Foundation)

Re-Create Missing Features from the Restoration Period

Recreating a missing vegetation feature that existed during the restoration period based on historical, pictorial and physical documentation. For example, replanting crop types based on pollen analysis.

Installing vegetation that was thought to have existed during the restoration period, but for which there is insufficient documentation; or planting vegetation that was part of the original design but was never installed, thus creating a false historic appearance.



CIRCULATION**Identify, Retain, and Preserve Historic Features and Materials from the Restoration Period**Recommended

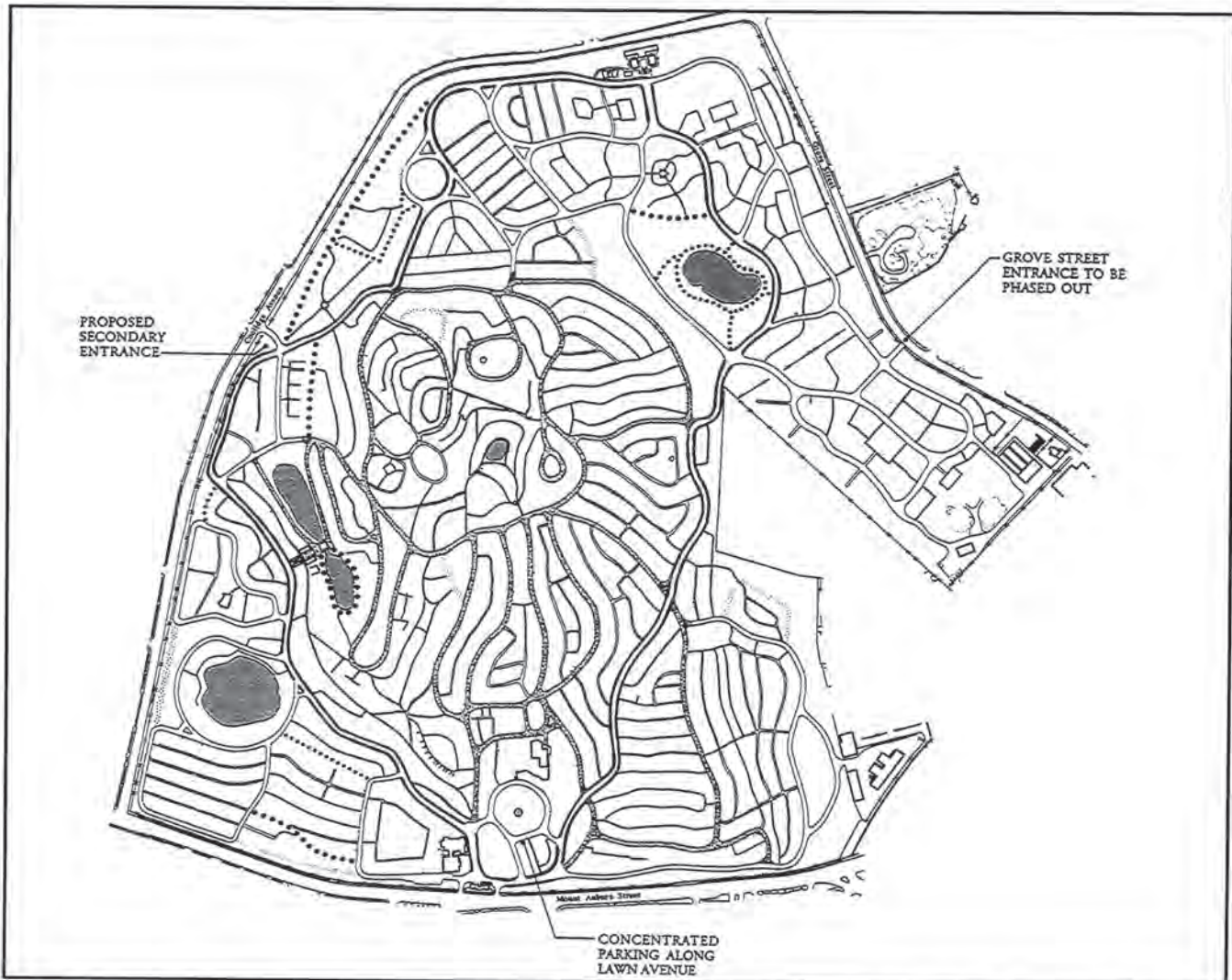
Identifying, retaining and preserving the existing circulation features from the restoration period prior to beginning project work. All circulation features should be documented, from small paths and walks to larger transportation corridors such as parkways, highways, railroads and canals. Documenting alignment, surface and edge treatment, width, grade, materials and infrastructure.

Evaluating and understanding the cultural landscape's circulation from the restoration period. Using archival resources such as plans and aerial photographs, or, in their absence, archeological analysis techniques to understand the circulation from the restoration period.

Not Recommended

Executing project work that impacts circulation from the restoration period. For example, altering the route and configuration of a historic bridge path without identifying its historic alignment.

Executing project work without understanding its impact on circulation features from the restoration period. For example, changing road widths without a thorough evaluation of the historic road.



The layout of the circulation system is the centerpiece of Mount Auburn's landscape design, and the least changed aspect of it. Today there are about 70 miles of paths and 12 miles of roads. The chronological development of the cemetery's access, circulation and parking has resulted in the proposal for protecting and retaining, and in places, restoring the historic circulation design. (The Halvorson Company)

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining circulation features from the restoration period by use of non-destructive methods and daily, seasonal and cyclical tasks. For example, this may include hand-raking, top-dressing, or rolling surface materials.

Failing to undertake preventive maintenance for circulation features from the restoration period. For example, permitting a failed drainage system to contribute to the degradation and loss of associated curbs or erosion of shoulders.

Utilizing maintenance methods which destroy or degrade circulation features from the restoration period. For example, using a snow plow over a coarse textured pavement.

Repair Features and Materials from the Restoration Period

Repair declining circulation features from the restoration period by reinforcing the materials that comprise these features. Repairs will also generally include the limited replacement in-kind or, with compatible substitute material, of those extensively deteriorated or missing parts of features when there are surviving prototypes. For example, replacing in-kind limited sections of capstone along a historic parapet. The new work should be unobtrusively dated to guide future research and treatment.

Replacing or destroying circulation features from the restoration period when repair of materials and limited replacement of deteriorated or missing components are appropriate.

Failing to reuse existing surface or edge materials from the restoration period when only the substrate requires repair.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the circulation feature from the restoration period, or that is physically or environmentally incompatible.

Replace Extensively Deteriorated Features from the Restoration Period

Using physical evidence of form, detailing and alignment to reproduce an entire circulation feature from the restoration period. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment. For example, replacing a bulkhead's timber coping along an entire waterfront esplanade.

Removing a circulation feature from the restoration period that is unrepairable and not replacing it; replacing it with a new feature that does not convey the same visual appearance; or failing to document the new work. For example, removing a crushed stone carriage road and replacing it with a wider asphalt road.

Remove Existing Features from Other Historic Periods

Removing or altering circulation features from other historic periods. For example, removing a later parking lot.

Documenting circulation features from other historic periods prior to their alteration or removal. For example, recording cross sections of road and retaining wall construction. If possible, representative features should be stored for future research.

Failing to remove circulation features from another period, thus confusing the depiction of the landscape during the restoration period. For example, maintaining a modern asphalt path through a historic meadow.

Failing to document circulation features from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.

Re-Create Missing Features from the Restoration Period

Recreating a missing circulation feature that existed during the restoration period based on historical, pictorial and physical documentation. For example, duplicating paving patterns based on surviving prototypes.

Constructing a circulation feature that was thought to have existed during the restoration period, but for which there is insufficient information; or constructing a circulation feature that was part of the original design but was never executed, thus creating a false historic appearance.



The garden walks constructed during the 1920s and 1930s at Shadows-on-the-Teche in New Iberia, Louisiana, had filled in with grass over time [top]. As part of the current master plan, these walks have been re-created using a mixture of earth and Portland cement. The materials are set in place, and water added. [opposite] Finally, a gravel top coat is packed-in and rolled flat [bottom]. (Shadows-on-the-Teche)



WATER FEATURES

Identify, Retain, and Preserve Historic Features and Materials from the Restoration Period

Recommended

Identifying, retaining and preserving existing water features and water sources such as retention ponds, pools, and fountains from the restoration period prior to project work. Documenting shape, edge and bottom condition/ material; water level, movement, sound and reflective quality; associated plant and animal life, and water quality.

Evaluating the condition of water features from the restoration period. For example, assessing water quality or utilizing archeological techniques to determine the path of a watercourse.

Not Recommended

Executing project work that impacts water features and associated hydrology from the restoration period, without undertaking an "existing conditions" survey. For example, filling in a pond that was historically used for ornamental or farming purposes.

Executing project work without understanding its impact on water features from the restoration period. For example, placing a section of creek in a culvert or concrete channel.

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining water features from the restoration period by use of non-destructive methods in daily, seasonal and cyclical tasks. For example, cleaning leaf litter or mineral deposits from drainage inlets or outlets.

Maintaining a water feature's mechanical, plumbing and electrical systems to insure appropriate depth of water or direction of flow. For example, routinely greasing and lubricating gate mechanisms for a pond.

Failing to undertake preventive maintenance of water features from the restoration period. For example, allowing a historic fish pond to fill up with leaf litter.

Utilizing maintenance methods which destroy or degrade water features from the restoration period. For example, using harsh chemical additives for maintaining water quality.

Allowing mechanical systems to fall into a state of disrepair, resulting in changes to the water feature. For example, failing to maintain a sprinkler system on a historic golf course.

Repair Features and Materials from the Restoration Period

Repair deteriorated water features from the restoration period by reinforcing the materials that comprise these features. Repairs will generally include limited replacement, in-kind or compatible substitute material, of those extensively deteriorated or missing parts of features when there are surviving prototypes. For example, replacing in-kind corroding iron valves in a historic spray pool. The new work should be unobtrusively dated to guide future research and treatment.

Replacing or destroying water features from the restoration period when repair of materials and limited replacement of deteriorated or missing parts are appropriate. For example, filling in a historic farm pond instead of removing invasive plant materials.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the water feature from the restoration period, or is physically or environmentally incompatible. For example, replacing marble coping stone with concrete.

Replace Extensively Deteriorated Features from the Restoration Period

Using existing physical evidence of form, depth and detailing to reproduce an entire water feature from the restoration period. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment. For example, replacing a granite watering trough with one of cast stone.

Removing a water feature from the restoration period that is unrepairable and not replacing it; replacing it with a new feature that does not convey the same visual appearance; or failing to document the new work. For example, channeling a natural stream into a culverted pipe.

Remove Existing Features from Other Historic Periods

Removing or altering water features from other historic periods. For example, removing a modern retention pond.

Failing to remove water features from another period, thus confusing the depiction of the landscape during the restoration period. For example, maintaining a swimming pool on the site of an historic herb garden.

Documenting water features from other periods prior to their alteration or removal. For example, inventorying and cataloguing hydrology, flora and fauna associated with the feature. If possible, selected examples of these materials or features should be stored to facilitate future research.

Failing to document water features from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.

Re-Create Missing Features from the Restoration Period

Recreating a missing water feature that existed during the restoration period based on historical, pictorial and physical documentation. For example, recasting a fountain from its original mold.

Constructing a water feature that was thought to have existed during the restoration period, but for which there is insufficient information; or constructing a water feature that was part of the original design but was never executed, thus creating a false historic appearance.



At the Joslyn Castle in Omaha, Nebraska, the location of pools believed to be part of the original design by Jens Jensen was confirmed by archeology. (Mary Hughes)

STRUCTURES, FURNISHINGS AND OBJECTS

Identify, Retain, and Preserve Historic Features and Materials from the Restoration Period

Recommended

Identifying, retaining and preserving existing structures, furnishings and objects from the restoration period prior to beginning project work. Documenting the relationship of these features to each other, their surrounds, and their material compositions.

Evaluating the condition of structures, furnishings and objects from the restoration period. For example, utilizing Historic Structures Reports and aerial photography to understand the relationship between tracks, trestles and screens at a mining site.

Not Recommended

Executing project work that impacts structures, furnishings and objects from the restoration period, without undertaking an "existing conditions" survey. For example, altering a pale fence that delineates the limits of a corral cluster.

Executing project work without understanding its impact on structures, furnishings and objects from the restoration period. For example, removing picnic tables and fireplaces from a group camp.

Protect and Maintain Features and Materials from the Restoration Period

Protecting and maintaining buildings, structures, furnishings and objects from the restoration period by use of non-destructive methods in daily, seasonal and cyclical tasks. For example, cleaning leaf litter from the gutters of a park pavilion.

Maintaining mechanical, plumbing and electrical systems for structures and furnishings. For example, providing adequate ventilation in a dovecote and improving its energy efficiency.

Failing to undertake preventive maintenance of structures, furnishings and objects from the restoration period. For example, allowing a cast iron fence from the restoration period to deteriorate.

Utilizing maintenance methods which destroy or degrade structures, furnishings and objects from the restoration period. For example, using harsh grit blasting techniques to clean historic stone or bronze statuary.

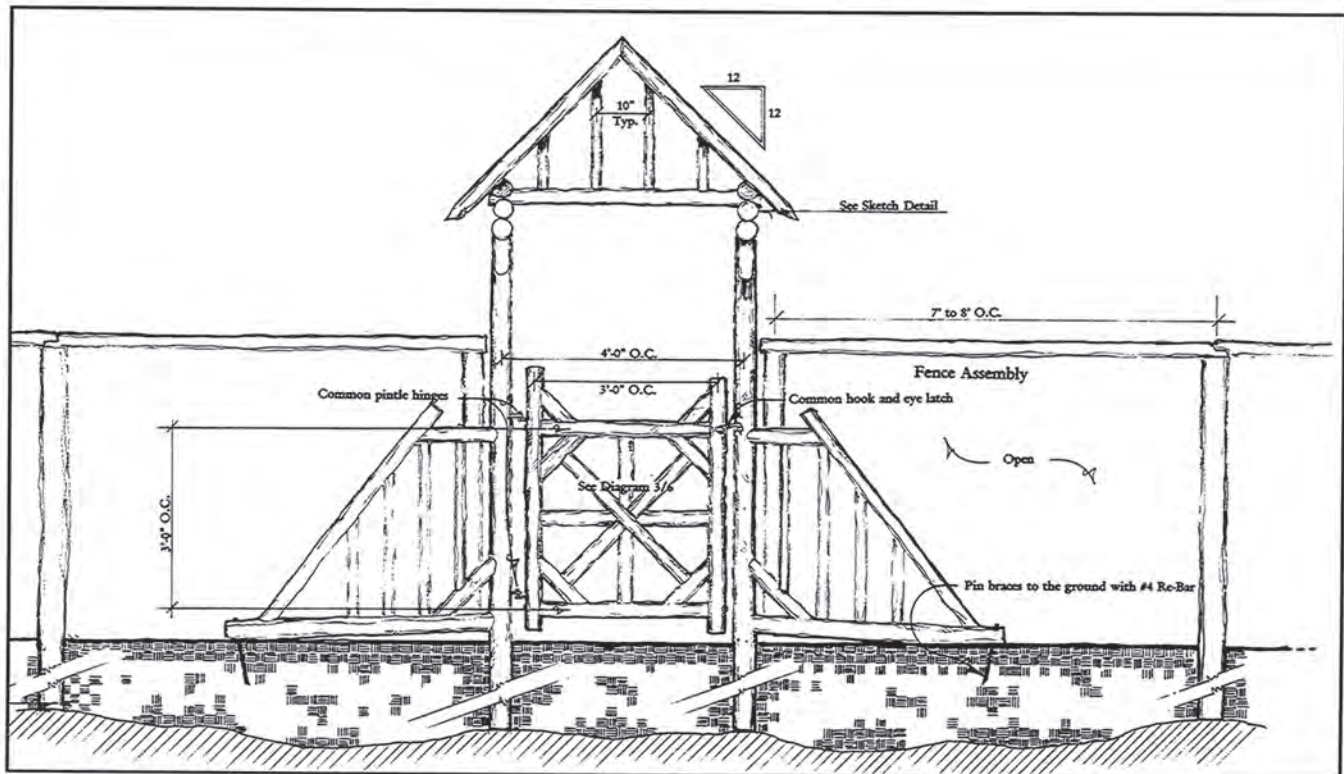
Allowing mechanical systems to fall into a state of disrepair, resulting in changes to a structure, furnishing or object. For example, enclosing mechanical systems of a poolhouse so they are not adequately ventilated.

Repair Features and Materials from the Restoration Period

Repairing deteriorating structures, furnishings and objects from the restoration period by reinforcing the materials that comprise these features. Repairs will also generally include the limited replacement in-kind or with compatible substitute material, of those extensively deteriorated or missing parts of features when there are surviving prototypes, such as roof features, windows, bollards and signage. The new work should be unobtrusively dated to guide future research and treatment.

Replacing or destroying structures, furnishings and objects from the restoration period when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the structure, furnishing or object from the restoration period, or that is physically or environmentally incompatible. For example, replacing a wood slat with a recycled plastic one in a historic bench.



The missing garden gate at Weir Farm National Historic Site [bottom] in Wilton, Connecticut, was restored [top right] through photographic documentation [top left] and archeology. (courtesy NPS and Weir Farm National Historic Site)



Replace Extensively Deteriorated Features from the Restoration Period

Using existing physical evidence of form, material and detailing to reproduce structures, furnishings or objects from the restoration period. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment. For example, replacing a cast stone mileage marker.

Removing a structure, furnishing or object from the restoration period that is unrepairable and not replacing it; replacing it with a new feature that does not convey the same visual appearance; or failing to document the new work. For example, replacing a deteriorated pier with a floating dock.

Remove Existing Features from Other Historic Periods

Removing or altering structures, furnishings and objects from other historic periods.

Failing to remove structures, furnishings and objects from another period, thus confusing the depiction of the cultural landscape during the restoration period. For example, maintaining modern sculpture in a historic estate.

Documenting structures, furnishings and objects from other periods prior to their alteration or removal. If possible, selected examples of these materials or features should be stored to facilitate future research.

Failing to document structures, furnishings and objects from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.

Re-Create Missing Features from the Restoration Period

Recreating a missing structure, furnishing or object that existed during the restoration period based on historical, pictorial and physical documentation. For example, recasting a garden jardiniere from its original mold or duplicating a corn crib from an extant prototype.

Constructing a structure, furnishing or object that was thought to have existed during the restoration period, but for which there is insufficient information; or constructing a bandstand that was part of the original design but was never executed, thus creating a false historic appearance.

Historic signs at Mt. Auburn Cemetery, Cambridge, Massachusetts, typical of the era, [opposite] are depicted through new castings made from a historic prototype. A deteriorated sign from another historic burial ground could also be restored using this prototype. The signature historic street lights, unique to Denver, Colorado, had been lost over time to quick-fix solutions. As part of a city-wide project to restore original streetscape furnishings, historic fixtures were recast, and installed in their appropriate settings. Two examples include the single-globe fixtures along Speer Boulevard [historic, contemporary-before and after; opposite page bottom]; and the downtown double-teardrop fixture [historic and two contemporary views; opposite page top]. (Western History Department, Denver Public Library, Foster and Marshall)





Although the work in the following sections is quite often an important aspect of restoration projects, its is usually not part of the overall process of restoring character-defining features (maintenance, repair and limited replacement); rather, such work is assessed for its potential negative impact on the landscape's historic character. For this reason, particular care must be taken not to obscure, alter, or damage character-defining features.

ACCESSIBILITY CONSIDERATIONS

Identifying the cultural landscape's features, materials and finishes from the restoration period so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements in such a way that features, materials and finishes from the restoration period are preserved.

Working with local accessibility and preservation specialists to determine the most appropriate solution to access problems which will have the least impact on character-defining features.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant character-defining landscape features, materials and finishes. For example, incorporating wider sidewalks only at intersections where ramps are being installed, leaving the main runs of historic sidewalks in place.

Finding solutions to meet accessibility requirements that minimize the impact on the cultural landscape, for example, compatible ramps and lifts.

Undertaking code-required alterations before identifying those features, materials and finishes which are from the restoration period and must therefore be preserved.

Damaging or destroying restoration period features in attempting to comply with accessibility requirements.

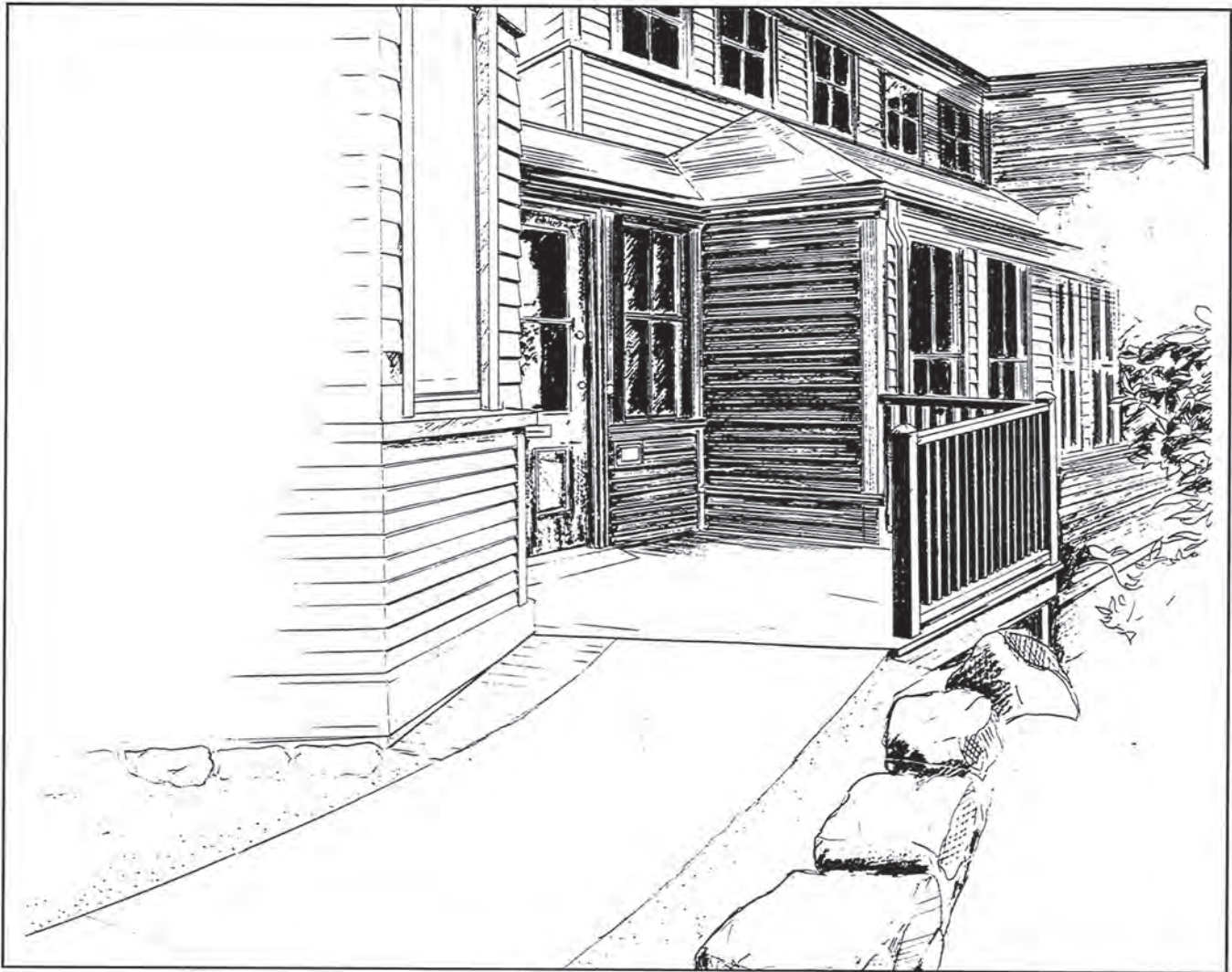
Altering features, materials and finishes from the restoration period without consulting local accessibility and preservation experts.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of landscape features, materials and finishes from the restoration period.

Making modifications for accessibility without considering the impact on the cultural landscape. For example, introducing a new access element (ramp or lift) that destroys the symmetry of a formal garden.



At the Eugene O'Neill National Historic Site in Danville, California, original walks that are too narrow by today's accessibility standards were retained and a new wheelchair route was defined via reinforced turf. (author, 1994)



Modifications to the entrance of the Frederick Law Olmsted National Historic Site in Brookline, Massachusetts, meet accessibility requirements and retain significant landscape and architectural features. (courtesy NPS)

HEALTH AND SAFETY CONSIDERATIONS

Identifying the cultural landscape's features, materials and finishes from the restoration period so that code-related work will not result in their damage or loss.

Complying with health and safety code requirements, in such a manner that features, materials and finishes from the restoration period are preserved. For example, recognizing standards for the removal of lead-based paints on play equipment.

Removing toxic materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading features from the restoration period to meet health and safety codes in a manner that assures their preservation. For example, upgrading a historic stairway without destroying handrails and balustrades from the restoration period.

Installing safety-related systems that result in the retention of features, materials, and finishes from the restoration period; for example, fire-suppression systems or seismic retrofits.

Applying the necessary materials to add additional protection to features, materials and finishes from the restoration period. For example, applying fire retardant, intumescent paint coatings to a deck to add thermal protection to its steel.

Adding new features to meet health and safety codes in a manner that preserves adjacent features, materials and finishes from the restoration period. For example, providing a new fire access along a derelict road from the restoration period.

Undertaking code-required alterations before identifying those features, materials and finishes from the restoration period which are character-defining and must therefore be preserved.

Altering, damaging or destroying features, materials and finishes from the restoration period while making modifications to a cultural landscape to comply with safety codes.

Destroying a cultural landscape's features, materials and finishes from the restoration period without careful testing and without considering less invasive abatement methods.

Removing unhealthful materials without regard to personal and environmental safety.

Making changes to cultural landscapes without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to features, materials and finishes from the restoration period.

Damaging or obscuring features, materials and finishes from the restoration period, in the process of doing work to meet code requirements.

Covering features from the restoration period with fire resistant sheathing which results in altering their visual appearance.

Using materials intended to provide additional protection, such as fire-retardant coatings, if they damage or obscure features, materials and finishes from the restoration period.

Radically changing, damaging or destroying features, materials and finishes from the restoration period when adding new code-required features.

ENVIRONMENTAL CONSIDERATIONS

Identifying the cultural landscape's features, materials and finishes from the restoration period so that environmental protection-required work will not result in their damage or loss.

Complying with environmental protection regulations in such a manner that features, materials and finishes from the restoration period are preserved. For example, protecting vegetation from the restoration period in which endangered species nest.

Working with environmental protection officials to investigate systems, methods, devices or technologies of equivalent or superior effectiveness to those prescribed by regulation so that unnecessary alterations can be avoided.

Reclaiming or re-establishing natural resources in a manner that promotes the highest degree of environmental protection, while preserving features, materials and finishes from the restoration period. For example, reclaiming a wetland to comply with applicable environmental regulations, while re-establishing the feature as it appeared during the restoration period.

Undertaking environmental protection-required work before identifying those features, materials and finishes from the restoration period which must be preserved.

Altering, damaging, or destroying features, materials and finishes from the restoration period while making modifications to a cultural landscape to comply with environmental protection regulations.

Making changes to cultural landscapes without first exploring equivalent environmental protection systems, methods, devices or technologies that may be less damaging to historic features, materials and finishes from the restoration period.

Making environmental protection related modifications that do not provide a reasonable balance between improved environmental conditions and the preservation of features, materials and finishes from the restoration period.

ENERGY EFFICIENCY

Retaining and maintaining those energy-efficient features or parts of features of the landscape from the restoration period. For example, maintaining vegetation from the restoration which performs passive solar energy functions.

Improving energy-efficiency of existing features from the restoration period through non-destructive means. For example, utilizing a recirculating system in a fountain rather than uncontrolled discharge to a storm system.

Removing or altering those features or parts of features from the restoration period which play an energy-conserving role. For example, removing a historic windbreak.

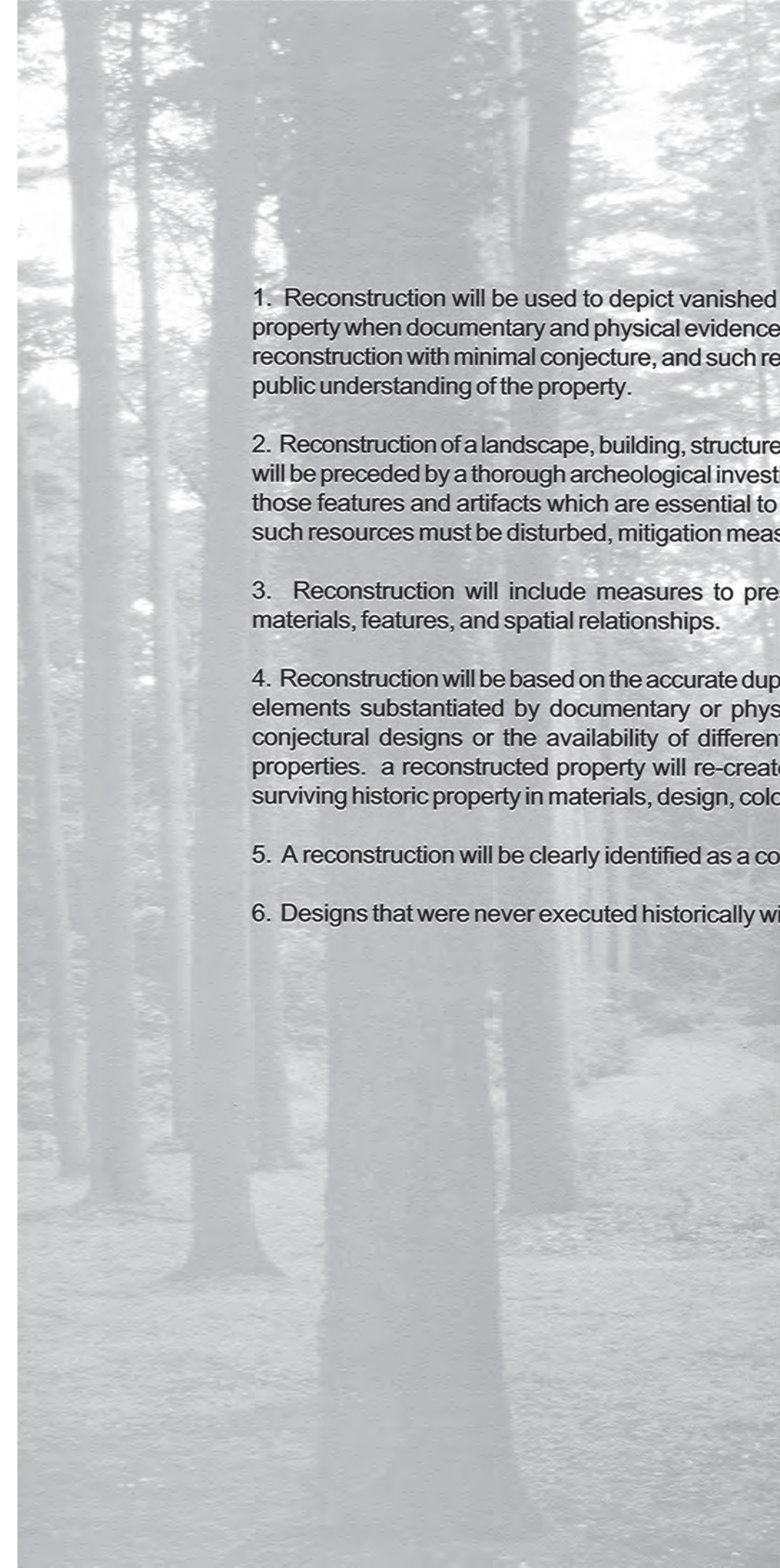
Replacing energy inefficient features from the restoration period rather than improving their energy conservation potential. For example, replacing an entire historic light standard, rather than retrofitting the fixture to be more efficient.

Standards for Reconstruction & Guidelines for Reconstructing Cultural Landscapes

When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.

Standards for Reconstruction

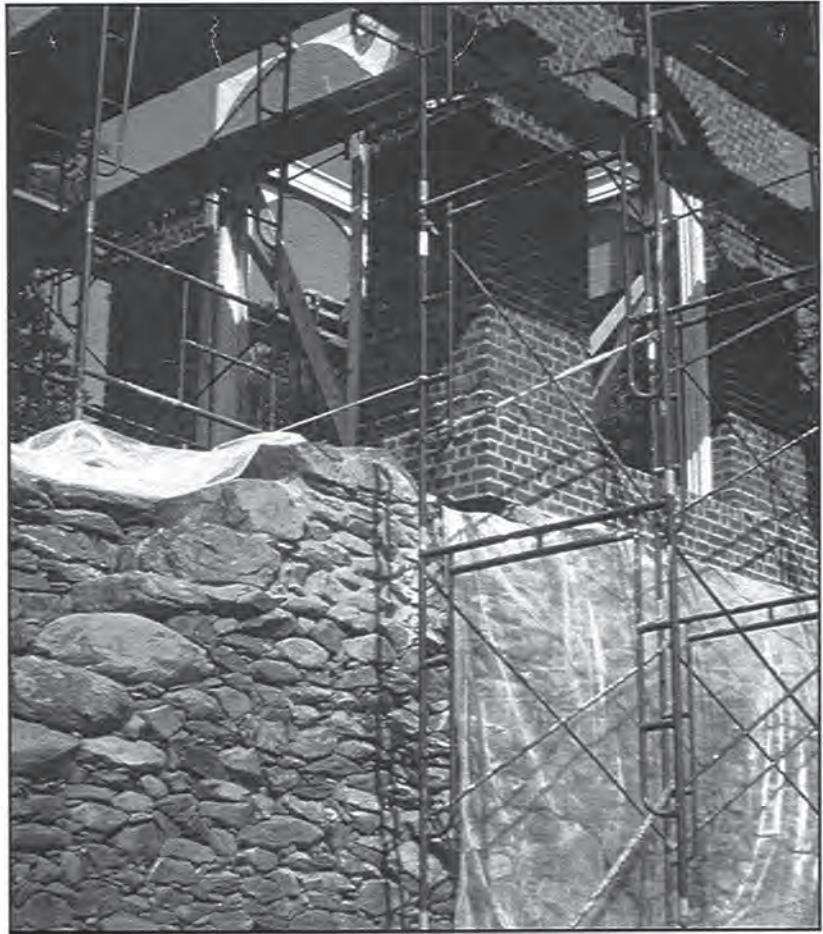
Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location

- 
1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.
 2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.
 3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.
 4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. a reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.
 5. A reconstruction will be clearly identified as a contemporary re-creation.
 6. Designs that were never executed historically will not be constructed.

Introduction

Whereas the treatment Restoration provides guidance on restoring—or re-creating—cultural landscape features, the **Standards for Reconstruction and Guidelines for Reconstructing Cultural Landscapes** address those aspects of treatment necessary to re-create an entire non-surviving landscape with new material. Much like restoration, the goal is to make the landscape appear as it did at a particular—and most significant—time in history. The difference is that in **Reconstruction**, there is far less (if any) extant historic material prior to treatment and, in some cases, there may be nothing visible. Because of the potential for historical error in the absence of sound physical evidence, this treatment can be justified only rarely and, thus, is the least frequently undertaken treatment.

For this reason, the various steps to be undertaken in **Reconstruction**—from research to new construction—are outlined, without providing the in-depth information offered for the other three treatments. Similarly, because few total landscape



None of the character-defining features of the South Terrace Garden at Monticello, in Charlottesville, Virginia, survived. Field archeology (taking over a decade) combined with documentary resources has resulted in the reconstruction of the garden's bedding areas, [above] stone retaining wall and pavilion, [top right] as well as the orchard, vineyard and berry squares on the adjacent sloping lands. The work was executed with a high level of accuracy. (Thomas Jefferson Memorial Foundation and author, 1996)

reconstructions meet the Standards, illustrations are also limited.

Documentation requirements prior to and following work are very stringent. Measures should be taken to preserve extant historic surface and subsurface material. Finally, the reconstructed landscape must be clearly identified as a contemporary re-creation.

☒ Research and Document Historical Significance

Guidance for the treatment **Reconstruction** begins with **researching and documenting** the landscape's historical significance to ascertain that its re-creation is essential to the public understanding of the property. Often, another extant historic landscape on, or near the property, can adequately explain the property, together with other interpretive aids. Justifying a reconstruction requires detailed physical and documentary evidence to minimize or eliminate conjecture and ensure that the reconstruction is as accurate as possible. Only one period of significance is generally identified; a landscape, as evolved, is rarely re-created. During this important fact-finding stage, if research does not provide adequate documentation for an accurate reconstruction, other interpretive methods should be considered, such as an explanatory marker.

☒ Investigate Archeological Resources

Investigating archeological resources is the next area of guidance in the treatment **Reconstruction**. The goal of physical research is to identify spatial organization and land patterns, features, and materials of the landscape which are essential to an accurate reconstruction, while leaving those archeological resources that are not essential undisturbed. Resources that are not relevant to the project should be preserved in place for future research. The archaeological findings and archival materials are then used to document the reconstruction period.

☒ Identify, Protect and Preserve Extant Historic Features

Closely aligned with archeological research, recommendations are given for **identifying, protecting, and preserving** extant features of the cultural landscape. It is never appropriate to base a **Reconstruction** upon conjectural plans or designs, or the availability of different features from other landscapes. Thus, any remaining historic features and materials, such as remnants of a foundation, walkway or pond, should be

retained, when practical, and incorporated into the reconstruction. The historic as well as new material should be carefully documented to guide future research and treatment. Such documentation could include photographs, measured drawings, and work specifications.

☒ Reconstruct Non-Surviving Landscapes

After the research and documentation phases, guidance is given for **Reconstruction** work itself. Features are addressed in general, always emphasizing the need for an accurate *depiction*; for example, exact duplication of field patterns or installation of a perennial border with exact arrangement and same genus, species and cultivar plants. In the absence of extant historic materials, the objective in reconstruction is to re-create the appearance of the historic landscape for interpretive purposes. Thus, while the use of traditional materials and finishes is always preferred, in some, instances, substitute materials may be used if they convey the same visual appearance.

Where non-visible features of the landscape are concerned—such as structural or mechanical systems—it is expected that contemporary materials and technology will be employed.

☒ Interpret the Reconstructed Landscape

An integral component of **Reconstruction** is to make clear to the visiting public that the landscape is not authentic; rather, it is a portrayal of the past for interpretive purposes. Thus, the Standards for Reconstruction make clear that the need to identify the treatment through signs, markers or other interpretive tools. Often, a brochure explaining a landscape's history will note its disappearance over time and subsequent reconstruction—and interpreters also offer background so that visitors can understand what they are viewing.

☒ Accessibility Considerations/Health and Safety Considerations/Environmental Considerations and Energy Efficiency

Code requirements must also be met in Reconstruction projects. For code purposes, a reconstructed landscape may be considered as essentially new construction. Guidance for these sections is also abbreviated, and focuses on achieving design solutions that do not destroy extant historic features and materials or obscure reconstructed features.

Guidelines for Reconstructing Cultural Landscapes



RECONSTRUCT NON-SURVIVING LANDSCAPES

Research and Document Historical Significance

Recommended

Researching and documenting the property's historical significance, focusing on the availability of documentary and physical evidence needed to justify reconstruction of the non-surviving cultural landscape.

Not Recommended

Undertaking a reconstruction based on insufficient research so that, an historically inaccurate cultural landscape is created.

Reconstructing a cultural landscape unnecessarily when an existing landscape adequately reflects or explains the history of the property, the historical event, or has the same associative value.

Executing a design for the landscape that was never constructed historically.

Investigate Archeological Resources

Investigating archeological resources to identify and evaluate the spatial organization and land patterns which are essential to the design and/or layout of the landscape.

Failing to identify and evaluate archeological information prior to reconstruction, or destroying extant historical information not relevant to the reconstruction which should be preserved in place.

Minimizing ground disturbance to reduce the possibility of destroying archeological resources.

Operating heavy machinery or equipment in areas where it may disturb archeological resources.

Identify, Protect and Preserve Extant Historic Features

Identifying, protecting and preserving extant historic features of the cultural landscape such as remnants of structures, field patterns, or walkways.

Beginning reconstruction work without first conducting a detailed site investigation to physically substantiate the documentary evidence.

Basing a reconstruction on conjectural designs or different features from other cultural landscapes.

SPATIAL ORGANIZATION AND LAND PATTERNS

Reconstructing the historic spatial organization or land patterns, including the size, configuration, proportion and relationship of landscape units; relationship of features to landscape units; and the landscape units themselves. For example, recreating a historic farmstead by reconstructing all of its buildings, structures, furnishings and objects to accurately convey the historic spatial organization and land patterns.

Altering the documented spatial organization or land patterns or relocating extant features so that the historic relationship between the feature and the landscape unit is inaccurately depicted. For example, relocating a statue along an estate's main access after it was recovered from an off-site location.

TOPOGRAPHY

Reconstructing a non-surviving topographic feature to depict the documented historic appearance.

Reconstructing topographic features that cannot be documented historically or for which inadequate documentation exists.



The Privy Garden at Hampton Court, U.K., was originally designed for King William III in 1702. By the mid-nineteenth century, William and Mary's "broderie" had completely disappeared. Since that time, the formal garden laid out for William III had provided an informal and shady retreat for visitors. As the scholarly basis for the reconstruction, archeology revealed the outlines of the garden; [top and middle] and was coupled with extensive research into the original planting design. The work included the propagation of original holly and yews to allow for in-kind replacement. [bottom and following page] All non-original vegetation from the garden (e.g. relocating trees of horticultural importance from later designs to an off-site nursery) was removed. (author, 1994 and 1995)

VEGETATION

Reconstructing a non-surviving vegetation feature to depict the documented historic appearance. Although historic genus, species and cultivar are preferable, substitute materials may be used as long as they recreate the historic appearance—namely, habit, form, color, texture, bloom, fruit, fragrance, scale and context. For example, reestablishing a lost corn field using a contemporary cultivar having the same habit and growth cycle.

Reconstructing vegetation features that cannot be documented historically or for which inadequate documentation exists. For example, installing a “period” herb garden.

Using substitute materials that do not convey the appearance of the historic vegetation.

Not reconstructing a documented vegetation feature; or replanting a feature but altering its historic appearance.

Failing to identify and interpret the reconstruction of a lost vegetation feature, thus confusing the public understanding.

CIRCULATION

Reconstructing a non-surviving circulation feature to depict the documented historic appearance. Although traditional materials such as masonry, wood, and cinders are preferable, substitute materials may be used as long as they recreate the historical appearance. For example, utilizing a color pigmented concrete with a brushed finish to recreate a swept path.

Reconstructing circulation features that cannot be documented historically or for which inadequate documentation exists.

Using substitute materials that do not convey the appearance of the cultural landscape.

Not reconstructing a documented circulation feature; or, rebuilding a feature but altering its historic design.

Using inappropriate alignment, surface treatment, width, edge, grade, materials or infrastructure that do not convey the historic appearance.



WATER FEATURES

Reconstructing a non-surviving water feature to depict the documented historic appearance. Although traditional materials are preferable, substitute materials may be used as long as they recreate the historical appearance. For example, utilizing contemporary masonry units to re-create a stone-lined boat basin.

Reconstructing water features that cannot be documented historically or for which inadequate documentation exists.

Using substitute materials that do not convey the appearance of the cultural landscape.

Not reconstructing a documented water feature, or rebuilding a feature but altering its historic design.

Using inappropriate shape, edge and bottom condition/ materials, or water level, movement, sound, and reflective quality that do not convey the historic appearance.

STRUCTURES, FURNISHINGS AND OBJECTS

Reconstructing a non-surviving structure, furnishing or object to depict the documented historic appearance. Although traditional materials such as masonry, wood, and architectural metals are preferable, substitute materials may be used as long as they recreate the historical appearance. For example, recreating a stone perimeter wall using a poured concrete core and stone facing.

Reconstructing a structure, furnishing and object that cannot be documented historically or for which inadequate documentation exists.

Using substitute materials that do not convey the original appearance of the cultural landscape.

Interpret the Reconstructed Landscape

Using signs or interpretive markers to identify the building, structure, furnishing or object as a contemporary re-creation. For example, installing new signage along a historic motorway, to identify the reconstruction of a scenic overlook.

Failing to identify and interpret the reconstruction of a structure, furnishing or object as a re-creation, thus confusing the public understanding.

Whereas preservation, rehabilitation, and restoration treatments usually necessitate retrofitting to meet code and energy requirements, in this treatment it is assumed that the reconstructed landscape will be essentially new construction. Thus, only minimal guidance is provided in the following section, although the work must still be assessed for its potential negative impact on the reconstructed landscape.

ACCESSIBILITY CONSIDERATIONS

Taking accessibility requirements into consideration early in the planning stage so that barrier-free access can be provided in a way that is compatible with the reconstruction.

Obscuring or damaging the appearance of the reconstructed landscape in the process of providing barrier-free access.

HEALTH AND SAFETY CONSIDERATIONS

Considering health and safety code requirements early in the planning stage of the project so that work is compatible with the reconstruction. For example, the installation of fire suppression systems or seismic retrofits.

Meeting health and safety requirements without considering their visual impact on the reconstruction.

ENVIRONMENTAL CONSIDERATIONS

Taking environmental protection requirements into consideration early in the planning stage so that desirable environmental conditions can be provided in a way that is compatible with the reconstruction. For example, re-establishing a wetland to comply with applicable environmental regulations, while recreating the feature as it appeared historically.

Obscuring or damaging the appearance of the reconstructed landscape in the process of providing environmental protection.

ENERGY EFFICIENCY

Considering energy efficiency requirements, such as passive solar functions or water conservation methods, early in the planning stage of the project so that work is incorporated into the reconstruction.

Obscuring or damaging the appearance of the reconstructed landscape in the process of providing energy efficiency.

Appendices



ANNOTATED LIST OF SELECTED READINGS

This abbreviated bibliography includes books, thematic issues of publications, and conference proceedings dedicated to the preservation of cultural landscapes. However, it does not include individual articles or chapters contained in larger publications. For a much expanded bibliography refer to: *Making Educated Decisions: A Landscape Preservation Bibliography*. The bibliography published by the National Park Service Preservation Assistance Division in 1994 includes over five hundred annotated citations referenced by subject, author and geographic indices.

Ahern, Katherine; Blythe, Leslie H. and; Page, Robert R., eds. **Cultural Landscape Bibliography: An Annotated Bibliography on Resources in the National Park System**. Washington D.C.: Park Historic Architecture Division, Cultural Landscape Program, Washington Office, 1992. A variety of reports since 1940—over 100 studies for seventy parks organized by National Park Service Region. Chronological and park indices. *bib. illus.*

Andropogon Associates, Ltd. **Earthworks Landscape Management Manual**. U.S. Department of the Interior National Park Service Park Historic Architecture Division. Cultural Resources, Washington, D.C., 1989. Management strategies and interpretive guidelines to resolve conflicts between preservation requirements and visitor impact on earthwork sites. Applicable to both natural and cultural landscapes. Includes guidelines of generic solutions. *bib. illus.*

Andrus, Patrick W. **Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields**. U.S. Department of the Interior. National Park Service Cultural Resources. Interagency Resources Division, Washington, D.C., 1992. 27 pp. Historical perspective and current status. Rationale for battlefield preservation. Guidance for successful preparation of nominations. Definitions and types. Mapping, field work, setting boundaries, documentation and assessment techniques. Step-by-step process for determining integrity and significance. *bib. illus.*

Austin, Richard L., Coordinating ed.; Kane, Thomas, J.; Melnick, Robert Z.; Turner, Suzanne Louise, Contributing eds. **The Yearbook of Landscape Architecture Historic Preservation**. New York, New York: Van Nostrand Reinhold Company, 1983. Twenty articles on the theory, philosophy, and implementation of landscape preservation work in the US. A variety of landscape types and geographic regions are represented.

Birnbau, Charles A., ed. "Focus on Landscape Preservation." *Historic Preservation Forum* 7, no.3 (1993): 69 pp. Presentation of recent advancements with an emphasis on the landscape preservation planning process. *bib. illus.*

Birnbau, Charles A., ed. **The Landscape Universe: Historic Designed Landscape in Context**. Armor Hall at Wave Hill, Bronx, New York, 23 April, 1993. United States: The Catalog of Landscape Records at Wave Hill in conjunction with the National Park Service, Preservation Assistance Division, 1993. 113 pp. Consideration of an individual designer's career canon, extant legacy, design philosophy, in addition to geographic context, prior to treatment work at an individual property. Exploration of a variety of landscape types including estates, cemeteries, residential subdivisions, parks and park systems. *bib. illus.*

Birnbau, Charles A. **Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes**. U.S. Department of the Interior.

National Park Service Cultural Resources. Preservation Assistance Division, Washington, D.C., (1994): 20 pp. Background and definitions. Step-by-step process for preserving historic designed and vernacular landscapes. A framework and guidance for undertaking project work to ensure a balance between historic preservation and change. Research, inventory, documentation, period plans, historic plant inventory, archaeology, analysis, treatment, interpretation, maintenance and implementation. *bib. illus.*

Birnbau, Charles A., ed. "A Reality Check for Our Nation's Parks." *CRM* 16, no.4 (1993): 44 pp. National case studies organized under three themes: establishing a context for treatment; planning for treatment; and, treatment implementation. All projects utilize the draft Guidelines for the Treatment of Historic Landscapes. *bib. illus.*

Birnbau, Charles A.; Crowder, Lisa E., eds. **Pioneers of American Landscape Design: An Annotated Bibliography**. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance Division, Historic Landscape Initiative, 1993. Sixty-one biographical profiles. Nearly 1,200 bibliographic citations with location and description of archival collection contents. Introduction relates research to treatment work. *illus. 144 pp.*

Birnbau, Charles A.; Fix, Julie K., eds. **Pioneers of American Landscape Design II: An Annotated Bibliography**. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Heritage Preservation Services Program, Historic Landscape Initiative, 1995. Fifty biographical profiles. Nearly 1,200 bibliographic citations with location and description of archival collection contents. *illus. 180 pp.*

Birnbau, Charles A.; Page, Robert R., eds. "Thematic Issue on Landscape Interpretation." *CRM* 17, no.7 (1994): 48 pp. An exploration of research and documentation techniques, interpretive planning tools, the influence of culture values, and innovative projects. Examples from the US, UK, Europe and Australia. *bib. illus.*

Bratton, Susan, ed. **Vegetation Change and Historic Landscape Management: Proceedings of the Conference on Science in the National Parks**. Colorado State University, Fort Collins, Colorado, 13-18 July 1986. The George Wright Society and the U.S. National Park Service, 1988. 214 pp. A variety of park landscapes from across the country. Mostly case study format including documentation, inventory and management. *bib. illus.*

Buggey, Susan, ed. "Special Issue: Conserving Historic Landscapes." *APT Bulletin* 9, no. 3 (1977): 106 pp. Focus on research and technology challenges from documentation techniques to treatment. *illus.*

Buggey, Susan, ed. "Special Issue: Conserving Historic Landscapes." *APT Bulletin* 11, no. 4 (1979): 132 pp. Current developments. Unlike the theme issue two years earlier, a greater

GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

focus is placed on rural/vernacular landscapes. Examples from the US, UK, Canada and Australia. bib. illus.

Buggey, Susan, ed. **"Special Issue: Conserving Historic Landscapes."** *APT Bulletin* 24, no.3&4 (1992): 84 pp. Definitions, principles, planning processes, standards and guidelines. Examples from the US, UK, Canada, with supplementary information on relative organizations. bib. illus.

Burns, John and the staff of HABS/HAER, National Park Service, eds. **"Recording Historic Landscapes" in Recording Historic Structures.** Washington, D.C.: The American Institute of Architects Press, 1989. Predominantly structures. Includes chapter on the documentation of Meridian Hill Park, Wash., D.C. Detailed plans, sections, photographs. bib. illus. pp. 206-219.

Clay, Grady, ed. **"Whose Time is This Place? The Emerging Science of Garden Preservation."** *Landscape Architecture* vol 66, no.5 (1976): First theme issue of magazine devoted to the topic of landscape preservation.

Coffin, Margaret. **Guide to Developing a Preservation Maintenance Plan for a Historic Landscape.**, Olmsted Center for Landscape Preservation, Cultural Landscape Publication No. 7, National Park Service, U.S. Department of the Interior, 1995. 55 pp. Integrating preservation objectives into landscape maintenance operations, and for planning and documenting work. bib. illus.

Comp, T. Allan, ed. **Regional Heritage Areas: Approaches to Sustainable Development.**, National Trust for Historic Preservation, Washington, D.C., 1994. 48 pp. National overview. Case studies: Southwestern Pennsylvania Heritage Preservation Program, Tennessee Overhill, Southwest Montana, Iowa (Silos and Smokestacks Program), Mississippi Headwaters, and Potomac River Heritage Project. Systems examples: French Heritage Parks, Pennsylvania Heritage Parks. National Coalition background, concept, purpose and principles. Annotated state-by-state national guide. bib. illus.

Day, Karen E. **Restoring Vine Coverage to Historic Buildings.**, U.S. Department of the Interior. National Park Service Cultural Resources. Preservation Assistance Division., Washington, D.C., 6 pp. Tech Note case study of nineteenth century trellis restoration project at Fairsted, Frederick Law Olmsted National Historic Site, Brookline, Mass. Historic background and experimental systems. Types: spiraled steel strapping, aircraft cable, modular pipe and combination alternatives. Notes on fabrication, installation, maintenance and findings. Construction details. bib. illus.

Diehl, Janet; Barrett, Thomas S. et al. **The Conservation Easement Handbook: Managing Land Conservation and Historic Preservation Easement Programs.** 4th ed. San Francisco, California/ Washington, D.C.: Trust for Public Land/ Land Trust Alliance, (1988): 269 pp. Tools to improve land protection efforts. Guidance for operating an easement program. Includes: techniques, criteria, compliance issues, competing land uses, and ethical responsibilities. Appendices: Model easement, IRS requirement checklist and national contacts. illus.

Frey, Susan Rademacher, ed. **"Preservation Leaps the Garden Wall."** *Landscape Architecture* 71, no.1 (1981): Second landscape preservation theme issue.

Frey, Susan Rademacher, ed.; with O'Donnell, Patricia M. and Melnick, Robert Z. **"Preservation: Defining an Ethic."** *Landscape Architecture* 77, no.4 (1987): 136 pp. Third theme issue of magazine. Planning treatment and management issues. Broadening the role of preservation within professional practice. bib. illus.

Gagliardi, Neil; Morris, Stephen. **Local Historic Preservation Plans: A Selected Annotated Bibliography.** Washington, D.C.: Branch of Preservation Planning, Interagency Resources Division, National Park Service, U.S. Department of the Interior, 1993. Results of national survey of 1,800 communities. Emphasis on regional diversity, scale variety, scope and linking preservation with community concerns. Includes comprehensive and area preservation plans. Sample plans and charts. illus.

Gayle, Margot; Look, David W; and, Waite, John G. **Metals in America's Historic Buildings.** Washington, D.C.: Preservation Assistance, National Park Service, U.S. Department of the Interior, 1992. Although the focus of this publication is on structures, the historical survey of metals and strategies for dealing with deterioration and methods of preservation have applications to cultural landscapes.

Gilbert, Cathy A.; Page, Robert R. and; Dolan, Susan A. **Preparing Cultural Landscape Reports for Resources in the National Park System.** Washington, D.C.: Park Historic Architecture and Cultural Landscapes Division, Cultural Landscape Program, 1996. The manual clarifies the purpose and use of the report, and defines its content, process and format. Additionally, technical information is provided on the methodologies and techniques for cultural landscape research, documentation, analysis and treatment.

Gittings, Kirk. **Introduction to Photographing Historic Properties.**, National Trust for Historic Preservation, Washington, D.C., 1992. 16 pp. Tools, techniques and processes. Artistic and documentary methodologies. Considerations: on-site, selecting film, processing, printing and storage. Focus on structures. Photography standards from the Historic American Buildings Survey (HABS) and the National Register of Historic Places. bib. illus.

Groth, Paul, ed., **Vision, Culture and Landscape.** Berkeley, California: Department of Landscape Architecture, University of California, Berkeley, 1990. 245 pp. Interpreting and reading cultural landscapes. Geographically and regionally diverse examples include rural, suburban and urban landscape types. bib. illus.

Hart, John. **Farming on the Edge: Saving Family Farms in Marin County, California.** Berkeley and Los Angeles, California: University of California Press, 1991. 174 pp. Essays include: *Waiting for the End; Back from the Edge; Crisis and Alliance; Something More Permanent; The Land in Trust; Marin the Model; a Grassland History; What Marin County Did (and Didn't Do).* illus.

Henry, Susan L. **Protecting Archeological Sites on Private Lands.** Washington, D.C.: National Park Service, Preservation Planning Branch, Interagency Resources Division, 1993. Archaeological values, regulatory, and non-regulatory strategies. Annotated appendices: protection strategies; the assessment process; seeking expertise; developer liaison; financial assistance; federal laws. bib. illus.

International Symposium on the Conservation of Urban Squares and Parks., Montreal, Canada, 12-15 May 1993. Quebec: Association Des Architectes, 391 pp. *Ninety-three papers from Canada, the United States, United Kingdom, Denmark, New-Zealand, Australia, Spain, Turkey, France, Switzerland, Mexico, Malaysia, Italy and Singapore explore the history of urban parks and squares, historical and archaeological research methodologies, site inventories, recording, documentation, analysis, treatment, interpretation, management, maintenance and ecology.*

Jackson, John Brinkerhoff. **Discovering the Vernacular Landscape.** New Haven, Connecticut: Yale University Press, 1984. 165 pp. *A cultural geographer's perspective on interpreting the vernacular landscape. Definitions. Reading landscape types and features including natural spaces, roads, forests, parks and habitats. bib. illus.*

Jester, Thomas C.; Park, Sharon C. **Making Historic Properties Accessible.,** U.S. Department of the Interior. National Park Service Cultural Resources. Preservation Assistance Division., Washington, D.C., 14 pp. *Planning accessibility modifications and illustrated solutions. Overview of Federal Accessibility Law. Focus on structures, but includes "Making Historic Landscapes Accessible" (Charles A. Birnbaum). bib. illus.*

Keller, J. Timothy; Keller, Genevieve P. **How to Evaluate and Nominate Designed Historic Landscapes.,** U.S. Department of the Interior. National Park Service Cultural Resources. Interagency Resources Division, Washington, D.C., 14 pp. *Guidance for successful preparation of nominations for designed historic landscapes. Definitions and types. Field work, research, documentation and assessment techniques. Landscape archaeology. Step-by-step process for determining integrity and significance. National examples. bib. illus.*

Lamme, Ary J., III. **America's Historic Landscapes: Community Power and the Preservation of Four National Historic Sites.** Knoxville, Tennessee: The University of Tennessee Press, 1989. 213 pp. *Landscape and meaning, including a review of literature. Analysis of historic landscapes; "contemplative" analysis of landscape meaning; and, community perspectives. Eastern U.S. case studies: St. Augustine, Fla.; Colonial National Historical Park, Va.; Sackets Harbor, N.Y.; and, Gettysburg, Pa. Review of findings and strategies. bib. illus.*

Land Trust Alliance; The National Trust for Historic Preservation in the United States. **Appraising Easements: Guidelines for Valuation of Historic Preservation and Land Conservation Easements.** 2d ed. Land Trust Alliance and the National Trust for Historic Preservation in the United States, 1990. 82 pp. *The process of easement appraisal. Includes the general principles of valuation, guidelines for appraisal reports, use of professional appraisal approaches, typical easements, and the role of the holding organization. bib.*

Landscape Preservation Seminar. University of Massachusetts at Amherst, 25-26 March 1988. University of Massachusetts at Amherst: Division of Continuing Education, 1988. 89 pp. *Preservation planning and management of a variety of landscape types from parks and gardens, to farms and battlefields. Tools and techniques for research, inventory, documentation, registration, analysis, treatment and management.*

Lee, Sharon, ed. "Historic Gardens." **The Public Garden 7,** no. 2 (1992): 40 pp. *Preservation and management of historic public landscapes with an emphasis on historic plant materials. bib. illus.*

Lind, Brenda. **The Conservation Easement Stewardship Guide: Designing, Monitoring, and Enforcing Easements.,** Washington, D.C.: Land Trust Alliance, 1991. 107 pp. *Establishing a program, accepting, documenting, monitoring, enforcing and funding easements. Property owner and community relations. Appendices: rules for record keeping; sample survey and documentation forms; and, sample policies. illus.*

Mastran, Shelley S. **The Protection of America's Scenic Byways.,** National Trust for Historic Preservation, Washington, D.C., 1993. 20 pp. *Overview of federal and state programs. Threats from tourism and urban sprawl. Preservation planning tools: Corridor Management Plans and incentive programs. Case studies: Lexington-Frankfort, Ky. Scenic Corridor; Red Hills Regions of Ga. and Fla; Brandywine River Valley, Pa; and Columbia River Highway, Ore. bib., annotated. illus.*

McClelland, Linda Flint and; Keller, J. Timothy; Keller, Genevieve P.; Melnick, Robert Z. **Guidelines for Evaluating and Documenting Rural Historic Landscapes.,** U.S. Department of the Interior. National Park Service Cultural Resources. Interagency Resources Division., Washington, D.C., 33 pp. *Guidance for successful preparation of nominations for rural/historic landscapes. Definitions and types. Field work, documentation and assessment techniques. Landscape archaeology. Matrix of landscape characteristics. Step-by-step process for determining integrity and significance. National examples. bib. illus.*

McMahon, Edward T.; Watson, A. Elizabeth. **In Search of Collaboration: Historic Preservation and the Environmental Movement.,** National Trust for Historic Preservation, Washington, D.C., 1992. 16 pp. *Exploration of common roots, interests, and problems: energy conservation, urban environment, transportation, tourism, greenways and heritage corridors. Opportunities: sustainable development, partnerships, sharing tools, planning and programs. Case studies: Lancaster County, Pa.; Bodie State Park, Calif.; Fenstermaker Ranch, San Antonio, Tex. illus.*

Meinig, D.W., ed. **The Interpretation of Ordinary Landscapes.** New York and Oxford: Oxford University Press, 1979. 255 pp. *A collection of essays on reading the landscape. from a cultural geographer's perspective. Reading landscape types and features including natural spaces, roads, forests, parks and habitats. bib. illus.*

Melnick, Robert Z. with; Sporn, Daniel and; Saxe, Emma Jane. **Cultural Landscapes: Rural Historic Districts in the National Park Service.,** Washington, D.C.: National Park Service, 1984. 80 pp. *Identification, evaluation, registration, and management of rural landscapes including features, components and patterns. Contents of a Cultural Landscape Report. Appendices: Standards for managing cultural resources (NPS-28); definitions, sources or information. bib., annotated. illus.*

Melnick, Robert Z. **Cultural and Historic Landscapes: A Selected Bibliography.** Washington, D.C.: National Park Service, 1980. *Organized in seven sections: architecture,*

GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

geography, historic preservation, landscape, planning, miscellaneous, and related bibliographies. Focus on vernacular and rural landscape information contained in journals.

Miller, Naomi F.; Gleason, Kathryn Louise. **The Archeology of Garden and Field.** Philadelphia: University of Pennsylvania Press, 1994. 228 pp. A contributed work with a variety of case studies and strategies for landscape archaeology. Includes inventory and analysis methodologies. bib. illus.

Montagna, Dennis R. **Conserving Outdoor Bronze Sculpture.** U.S. Department of the Interior. National Park Service Cultural Resources. Preservation Assistance Division., Washington, D.C., 1989. 8 pp. Treatment case study of the Thaddeus Kosciuszko Monument, Wash., D.C. with air abrasive cleaning with pulverized walnut shells, followed by applications of corrosion inhibitor and protective wax coatings. Suggestions for maintenance and later evaluations. bib. illus.

Noble, Bruce J. Jr; Spude, Robert. **Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties.** U.S. Department of the Interior. National Park Service Cultural Resources. Interagency Resources Division., Washington, D.C., 1992. 30 pp. Background and contexts for mining. Guidance for successful preparation of nominations. Description of processes: extraction, beneficiation and refining. Related property type descriptions. Field work, setting boundaries, documentation, inventory and assessment techniques. Step-by-step process for determining integrity and significance. bib. illus.

Page, Robert R., ed. "Cultural Landscapes: The Intent and the Tenor of the Times." *CRM* 14, no.6 (1991): 28 pp. Highlights a diversity of landscape types and the range of activity underway in the research, documentation, planning, and management. illus.

Potter, Elisabeth Walton; Boland, Beth M. **Guidelines for Evaluating and Registering Cemeteries and Burial Places.** U.S. Department of the Interior. National Park Service Cultural Resources. Interagency Resources Division., Washington, D.C., 33 pp. American burial customs and cemeteries. Descriptions and types of burial places and their associated features. Guidance for successful preparation of nominations. Mapping, field work, archaeology, photography, setting boundaries, documentation and assessment techniques. Step-by-step process for determining integrity and significance. bib. illus.

Proceedings of the Canadian Parks Service Reconstruction Workshop. Hull, Quebec, 11-13 March 1992. Canada: National Historic Sites, Parks Service, Environment Canada, 1993. 107 pp. Proceedings addressing five issues including: Challenges the CPS Faces with Existing Reconstructions; Values of Reconstructions as They Relate to Presentation; What CPS Should Do with its Ageing Reconstructions; Alternatives to Period Reconstruction; and Criteria for Reconstructions in the Future.

Ramsay, Juliet. **How to Record the National Estate Values of Gardens.** Australian Government Publishing Service, Canberra, Australia, 1991. 24 pp. A guide to identifying, surveying and evaluating condition and integrity of a garden as required by the Commission. Step-by-step process for researching its history, compiling a written narrative and generating plan. Summary of the Australian Heritage Commission Criteria, examples of survey forms and garden layout plans. bib. illus.

Ramsay, Juliet. **Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate.** Australian Government Publishing Service, Canberra, Australia, 1991. 54 pp. To standardize the assessment of nominations, different category classifications are described. To establish common terminology, groups of gardens with similar characteristics, called "types" or "type profiles" are defined with representative examples. Two sections: classification methods; assessment process. Matrix, plans. bib. illus.

Reilly, Marilou, issue consultant. "Historic Transportation Corridors: A New and Dynamic Element of Historic Preservation." *CRM* 16, no.11 (1993): 60 pp. Selected papers from the international conference held in Natchitoches, Louisiana. Tools for identification, documentation, registration, analysis, and management. illus.

Rogers, Elizabeth Barlow. **Rebuilding Central Park: A Management and Restoration Plan.** Cambridge, Massachusetts and London, U.K.: MIT Press, 1987. 160 pp. Preservation planning for N.Y.C., N.Y. landmark. Historic overview and detailed methodology for park analysis and later management. Divides park into twenty-two project areas, each with plans and photographs. Overview of Central Park Conservancy. illus.

Starke, Barry M. **Maymont Park—The Italian Garden.** National Park Service, Washington, D.C., 1980. Rehabilitation plan for historic Richmond, Va. garden. Plans, sections, specs and details with an emphasis on masonry. bib. illus.

Stokes, Samuel N.; Watson, A. Elizabeth; Keller, Genevieve P.; Keller, J. Timothy. **Saving Americas Countryside: A Guide to Rural Conservation.** Baltimore, Maryland: National Trust for Historic Preservation and Johns Hopkins University Press, 1989. 306 pp. Present day concerns and trends. Strategies and tools for identifying, analyzing, preserving and protecting rural and vernacular landscapes. National case studies include conservation programs, land protection techniques, voluntary techniques for protecting private property and community outreach and education. Sources of assistance and suggested readings. bib., annotated. illus.

Strangstad, Lynette. **A Graveyard Preservation Primer.** 2d ed. Nashville, Tennessee: American Association for State and Local History, 1990. A "how-to" manual. Inventory, data collection, archaeology, and assessment strategies. Organizational concerns: rubbings, volunteer coordination, public awareness, security, interpretation and funding. Sample survey forms. bib., annotated. illus.

Strangstad, Lynette. **Preservation of Historic Burial Grounds.** National Trust for Historic Preservation, Washington, D.C., 1994. 24 pp. Preservation planning guide. Project organization, necessary professionals, archaeology, maintenance, management, treatment and phasing. Cleaning burial markers. Preserving historic plant materials (by Scott Kunst). Case studies: Mt. Moriah Cemetery, Deadwood, N. Dak.; Magnolia Cemetery, Mobile, Ala.; and Randolph Cemetery, Columbia, S.C. Sample survey sheet for individual grave markers. Other national examples. bib. illus.

Technologies for Prehistoric and Historic Preservation. U.S. Congress, Office of Technology Assessment, Washington, D.C., 1986. 186 pp. Background and summary of findings:

preservation process, treatment issues, applied technology, public information, and federal policy. *Landscape and archaeology discussed. illus.*

Technologies for the Preservation of Prehistoric and Historic Landscapes—Background Paper., U.S. Congress, Office of Technology Assessment, Washington, D.C., 1987. 46 pp. *Technology and legislative recommendations pertaining to: landscape identification, the need for a center for preservation technology, and federal policy. bib. illus.*

Toth, Edward. **An Ecosystem Approach to Woodland Management: The Case of Prospect Park.**, National Association for Olmsted Parks, Bethesda, Maryland, 1991. 14 pp. *Urban park management for 1866 Olmsted/Vaux designed historic park. Over 100 acres of remnant woodland in various states of deterioration are addressed by specialized maintenance crews for horticulture, lawns, and natural resources. Six main tasks: controlling slope erosion, arresting soil depletion, controlling invasive species, replanting interior gaps, understory restoration and minimizing disturbance. Ravine I case study. Management zones and associated plant lists. Plans. bib. illus.*

Vernon, Noel Dorsey; Garvey, C. Elizabeth; Williams, Sherda K. **Oral History Guidelines for Landscape Historians.** Washington, D.C.: American Society of Landscape Architects Open Committee on Historic Preservation, 1990. *Types of projects, organization, preparation, execution, and transcription. Ethical and legal considerations. bib., annotated.*

Weeks, Kay D.; Grimmer, Anne E. **Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings.**, U.S. Department of the Interior. National Park Service. Cultural Resource Stewardship and Partnerships. Heritage Preservation Services, Washington, D.C., 1995. 188 pp. *Using the standards and choosing the most appropriate treatment for a building. Organized by building exterior and interior. The parallel document to these guidelines for structures. illus.*

Yaro, Robert D., ed. **New England Landscape: An Interdisciplinary Journal of Landscape Planning and Design.**, 1, no.1 (1988): 110 pp. *First and only issue published. Preservation-related papers: Land Trusts: Innovations on an Old New England Idea, Gordon Abbott, Jr.; The Changing New England Landscape: A Sociodemographic History, A.E. Luloff; Conserving Special Landscapes: a Case Study of Block Island, Judith Benedict; Cross-Cultural Planning: Learning from the British Countryside, Richard W. Carbin. bib. illus.*

DIRECTORY OF ORGANIZATIONS

The National Park Service is in the process of developing a directory of organizations that deal with landscape preservation issues at a national and state level. To date, the holdings include over 300 organizations. The following organizations are only a sampling, produce related materials, and can answer your questions about historic landscape activities:

☒ **National Park Service (NPS)**

U.S. Department of the Interior
P.O. Box 37127
Washington D.C. 20013-7127
(202) 343-9578

The NPS has a variety of cultural resource programs that address the preservation of the nation's resources, both within and outside the NPS system. The NPS provides both policy and technical information regarding identification, documentation, evaluation, treatment and management of historic landscapes.

☒ **American Association for State and Local History (AASLH)**

530 Church Street, Suite 600
Nashville, Tennessee 37219
(615) 255-2971

The AASLH supports citizen participation in the preservation of North American history. They provide seminars and workshops, support an annual meeting, a quarterly magazine and a monthly newsletter. In recent years, the AASLH has placed a greater emphasis on landscapes with several papers published on the topic.

☒ **American Association of Botanical Gardens and Arboreta (AABGA)**

786 Church Road
Wayne, Pennsylvania 19087
(610) 688-1120

The AABGA serves American botanical gardens, arboreta, and their professional staff on behalf of the public and horticulture profession. Membership is varied and includes many historic properties. Most recently the organization has formed a specialized committee that deals specifically with historic landscape and preservation issues.

☒ **American Farmland Trust (AFT)**

1920 N Street, N.W. Suite 400
Washington, D.C. 20036
(202) 659-5170

The AFT works to protect our national legacy of agricultural resources. Primary goals of AFT include working with communities to prevent the loss of productive farmland, and to promote ideal farming practices. The AFT also administers a revolving loan fund for farmland acquisitions and promotion.

☒ **American Planning Association (APA)**

1776 Massachusetts Avenue, N.W.
Washington, D.C. 2036
(202) 872-0611

The APA monitors developments in planning, sponsors educational programs, prepares publications, and develops educational policies on planning issues. Several specialized APA committees address a variety of related issues. This includes rural and small town planning and preservation, urban design and historic preservation.

☒ **Applied Preservation Technology (APT)**

PO Box 3511
Williamsburg, Virginia 23187
(703) 373-1621

APT is involved in the conservation and protection of historic properties and artifact resources. APT holds annual conferences, sponsors workshops, and organizes tours that often feature historic landscapes and landscape preservation issues. The *APT Bulletin*, has for over twenty years addressed the topic of landscape preservation.

☒ **American Society of Landscape Architects (ASLA)**

4401 Connecticut Avenue, N.W.
Washington D.C. 20008-2302
(202) 686-2752

Founded in 1899, ASLA is the professional membership organization for practicing landscape architects in the U.S. In 1970 the ASLA established the Historic Preservation Open Committee (HPOC). To date, the committee has sponsored ten annual landscape preservation symposia and produces the newsletter, *Land & History* two to four times annually.

☒ **The Alliance for Historic Landscape Preservation**

82 Wall Street
Suite 1105
New York, New York 10005
(608) 256-7585

The Alliance is an inter-disciplinary professional organization which provides a forum for communication and exchange of information among its members. It is dedicated to the preservation and conservation of historic landscapes, from formal gardens and public parks to rural expanses.

📖 **Catalog of Landscape Records in the United States at Wave Hill**

675 West 252nd Street
Bronx, New York 10471
(718) 549-3200

The Catalog is a cumulative index to all documentation for landscapes, past and present. The Catalog's growing database describes the scope, location and content of public and private collections of landscape records in this country. The Catalog publishes a quarterly newsletter and serves as a national clearinghouse on the care, management and placement of landscape records. It is a project of the American Garden and Landscape History Program at Wave Hill.

📖 **The Garden Conservancy (TGC)**

Box 219
Albany Post Road
Cold Spring, New York 10516
(914) 265.2029

The TGC is a national organization working to preserve America's exceptional gardens. Formed in 1989, the TGC facilitates the transition of gardens from private to independent nonprofit ownership and operation. The TGC is also a resource for individuals and community groups in need of legal, fund-raising, and management assistance to further their own garden preservation projects. Through its educational and garden-visiting programs, the Conservancy serves the public's growing interest in gardens while developing broad support for garden preservation.

📖 **The Garden Club of America (GCA)**

598 Madison Avenue
New York, New York 10022
(212) 753-8287

Established in 1913, The GCA is a national organization with member clubs from coast to coast and in Hawaii working to improve and protect the quality of the environment, to educate the public and to promote the knowledge and love of gardening. The GCA is concerned with the protection of historic landscapes and has been active in efforts to protect such resources from destruction.

📖 **International Council on Monuments and Sites, U.S. Committee (US ICOMOS)**

National Building Museum
401 F Street N.W. Room 331
Washington D.C. 20001-2728
(202) 842-1866

US/ICOMOS is one of 60 national committees of ICOMOS. ICOMOS fosters preservation of cultural resources world-wide through an international network and as an advisor to the United Nations Education, Scientific, and Cultural Organization (UNESCO) on World Heritage Sites. The US/ICOMOS Historic

Landscape Committee is one of several specialized committees. Established in 1989, the committee promotes recognition and protection of historic landscapes.

📖 **Land Trust Alliance (LTA)**

900 17th Street, N.W., Suite 410
Washington, D.C. 20006-2501
(202) 785-1410

Founded in 1982, the LTA serves as an umbrella group for the land trust movement. The Alliance provides a broad range of services, from insurance to training aimed at helping to strengthen individual land trusts. The LTA acts as the voice for local and regional land conservation groups in its surrounding area. The LTA focuses on public policy issues of direct interest to land trusts, taking on both educational and advocacy roles. The Alliance produces a quarterly journal.

📖 **National Association for Olmsted Parks**

7315 Wisconsin Avenue, #504 East
Bethesda, Maryland 20815
(202) 362-9511

Founded in 1980, the NAOP is a national network of volunteers and professionals, working to promote and protect the Olmsted legacy. NAOP is a non-profit membership organization. It has local chapters across the nation. It is the leading organization dedicated to preserving the landscapes designed by Olmsted, his successors, and followers.

📖 **National Conference of State Historic Preservation Officers**

444 North Capitol Street, N.W. Suite 342
Washington D.C. 20001
(202) 624-5465

Each state has a Historic Preservation Officer appointed by the Governor to carry out the National Historic Preservation Act for the Secretary of the Interior. Their responsibilities include conducting cultural resource surveys, preparing comprehensive statewide preservation plans, nominating landscapes to the National Register of Historic Places, reviewing Federal projects for effects on historic landscapes, administering a range of assistance programs, provide public information, offering education and training programs, and furnishing technical assistance to counties, cities, and towns in developing local preservation programs.

📖 **National Trust for Historic Preservation**

1785 Massachusetts Avenue, N.W.
Washington D.C. 20036
(202) 673-4000

The National Trust is a national private, nonprofit organization chartered Congress. Its mission is to foster an appreciation of the diverse character and meaning of our American cultural heritage and to preserve and revitalize the livability of our

GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES

communities by leading the nation in saving America's historic environments.

☒ **The Nature Conservancy**

1800 North Kent Street
Arlington, Virginia 22209
(703) 841-8744

The Conservancy has a primary commitment to the conservation of threatened or endangered species, habitats, and natural communities in the U.S. The Conservancy has also undertaken work in the preservation of historic and cultural resources.

☒ **Scenic America**

21 DuPont Circle N.W.
Washington, D.C. 20036
(202) 833-4300

Scenic America's mission is to preserve and enhance the scenic character of America's communities and countrysides.

☒ **The Society for Commercial Archaeology (SCA)**

c/o Room 5010
National Museum of American History
Washington, D.C. 20560
(202) 882-5424

The SCA is the oldest national organization devoted to the commercial-built environment. The purpose of SCA is to recognize the unique historical significance of that environment and the cultural landscapes of America, with a particular emphasis on the impact the automobile had on the shaping of our culture.

☒ **The Society for Historical Archaeology (SHA)**

5250 Cherokee Avenue, 5th Floor
Alexandria, Virginia 22312
(703) 354-9737

Formed in 1967, the SHA is the largest scholarly group concerned with the archaeology of the modern world (A.D. 1400-present). The main focus of the Society is the era since the beginning of European exploration. The SHA promotes scholarly research and the dissemination of knowledge concerning historical archaeology. The Society also is specifically concerned with the identification, excavation, interpretation, and conservation of sites and materials on land and underwater. The SHA holds an annual meeting in January and produce a quarterly journal and newsletter.

☒ **Vernacular Architecture Forum (VAF)**

c/o Peter Kurtze, Secretary
109 Brandon Road
Baltimore, Maryland 21212

In 1980, the VAF was formed to encourage the study of "vernacular architecture"—namely, traditional domestic and agricultural buildings, industrial and commercial structures, twentieth-century suburban houses, settlement patterns, and cultural landscapes. The organization's membership is multidisciplinary and includes historians, designers, archeologists, folklorists, historians, geographers, curators and preservationists. The VAF holds an annual meeting, produces a quarterly newsletter and occasional books.



U.S. Department of the Interior
National Park Service
Cultural Resources

Heritage Preservation Services